GAS

ENGINEERING • UTILIZATION • LOAD-BUILDING • MANAGEMENT

FEB 11 1943

REYNOLDS

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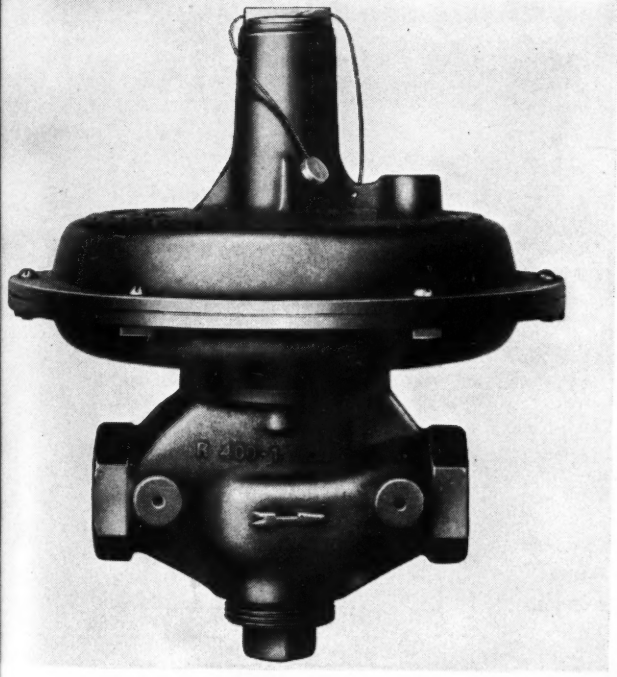
The Leader

IN THE

GAS CONTROL FIELD



Down through the decades, ever since the beginning of industry, there have been names that secure instant recognition . . . names that instantly suggest leadership . . . names that suggest highest quality. In the Gas Control Field for more than half a century, the name REYNOLDS has been the standard of comparison . . . so recognized by leading gas company executives and engineers. Reynolds' Engineering Service to help you solve your Gas Control problems is yours for the asking. Write!

REYNOLDS GAS REGULATOR CO.

Anderson, Indiana, U. S. A.

RECOGNIZED GAS CONTROL SINCE 1892

EMCO PRESSED STEEL METERS

Accurate measurement by EMCO Pressed Steel Meters, positive line control with Nordstrom Valves on this large volume industrial meter setting

THE BEST METER IN THE END BECAUSE, IT'S MORE METER TO BEGIN WITH!

FROM the hundreds of gas utilities, who for years have been relying upon EMCO Pressed Steel Meters for accurate, dependable measurement, have been received many expressions concerning their reliability and satisfactory operation. We quote the following paragraphs from a recent statement made by a well known superintendent of gas distribution and regulation in New York state

"Taking into consideration all of the variables of metering service, we have had very fine success with our EMCO No. 4½ and No. 5 Meters. Tests, following reconditioning, usually show perfect results.

"It is very interesting to note the small error in EMCO Pressed Steel Meters after passing large volumes of gas. For example, two of these meters passed 180 million cubic feet, each at 10 pounds pressure under severe turn-on and turn-off conditions. One of these meters was found to be ½% slow and another ½% fast.

"An approximate estimate of the volume passed per EMCO Pressed Steel Meter in our system would be about 2 million cubic feet per month, per meter. Our repair costs and service costs for our large capacity meters are exceedingly small in comparison to the large quantity of gas metered."

Expressions such as these prove that the EMCO Pressed Steel Meter is the best meter in the end because it's more meter to begin with.

To Aid in Keeping 'Em Measuring

Write for this Manual

THIS 80-page manual, profusely illustrated, tells the approved methods for renewing the life of all EMCO and Ironclad Meters. Factory designed jigs and tools described therein can be secured that will simplify repair procedure and assure an accurately fitted job even with inexperienced labor.

Meter Shop Foremen, Distribution Superintendents and Measurement Engineers are invited to write for this Repair and Maintenance Manual as well as for up-to-date parts lists for all EMCO products.

PITTSBURGH EQUITABLE METER COMPANY

NEW YORK · BROOKLYN · DES MOINES · MEMPHIS · OAKLAND · TULSA · CHICAGO · BOSTON

MERCO NORDSTROM VALVE COMPANY
Main Offices, Pittsburgh, Pa.
NATIONAL METER DIVISION, Brooklyn, N. Y.

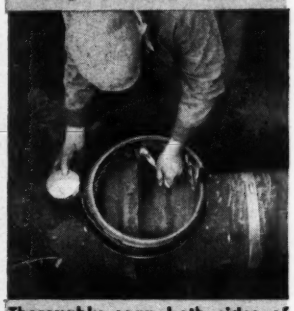
KANSAS CITY · PHILADELPHIA · SAN FRANCISCO · LOS ANGELES · SEATTLE · HOUSTON · COLUMBIA · BUFFALO

REPAIR and MAINTENANCE

IMPORTANCE RECOGNIZED BY GOVERNMENT!

Maintenance of uninterrupted service is just as important as the manufacture of munitions. Recognizing this, the government has allowed us enough material so that we can, in most cases, make immediate shipment under good ratings.

Clean pipe thoroughly — then center brass band over break, bending tab back to lock.



Thoroughly soap both sides of gasket and pipe with heavy soap water.

Center gasket and Monel Band over brass band.

Assemble halves of clamp over pipe and bolt together.

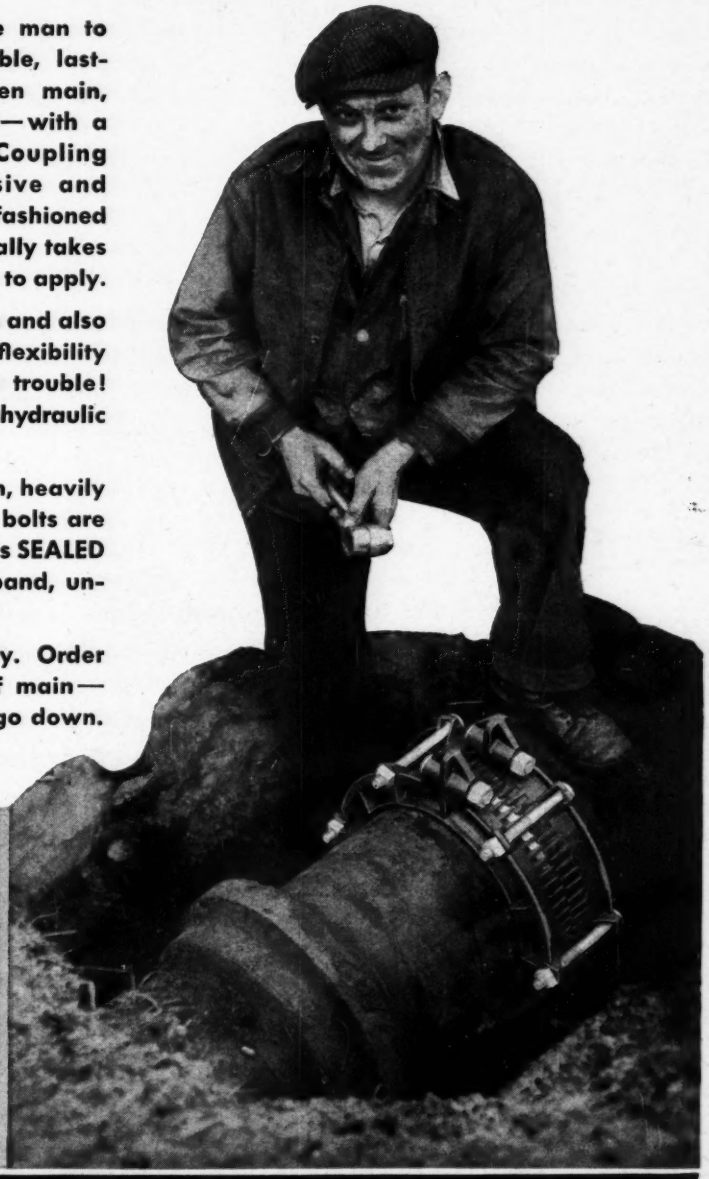
Insert pull bolts and tighten all around evenly.

IT'S EASY for one man to make a dependable, lasting repair of a broken main, in 15 minutes or less — with a **SKINNER-SEAL** Split Coupling Clamp! Less expensive and lighter than the old-fashioned split sleeve, which usually takes 2 or 3 men 3 or 4 hours to apply.

Splices the broken main and also provides a degree of flexibility which prevents future trouble! Easily passes 600 lb hydraulic pressure test!

Made of malleable iron, heavily enameled. Sturdy steel bolts are electro-plated. Gasket is SEALED by Monel Metal Seal band, under pressure of rings.

Thousands used yearly. Order today for each size of main — watch repair expense go down.



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GAS

REG. U. S. PATENT OFFICE

Nineteenth Year of Publication

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GUEST EDITORIAL

NO CHANGE for the SAKE of CHANGE

By L. L. BAXTER

Vice President, Arkansas Western Gas Company and Secretary-Treasurer, Southern Gas Association

NO MORE than 10 years ago, you will recall, the economic cycle had slowed down to such an extent that business men were able to cheer themselves only by voicing the opinion that things simply could not get any worse. That was cold comfort, but it was the only comfort that offered itself—until, finally, conditions *did* begin to change, and for the better. Most people got jobs. The American people regained their confidence.

Today in 1942, however, we are faced with conditions that may turn out to be more disastrous than the events of the depression years. Look around your own neighborhood or trade center. You may find that your favorite filling station has folded. Perhaps the garage you patronized, or the delicatessen, or the grocery store, has closed up for the duration.

"For the duration?" You know and I know that the doors of many of these establishments will not ever open again. They are businesses that have run their course.

What about the owners and employees of these various businesses? Some of them are without jobs. Many have secured employment in other towns—making a good wage, but maintaining two residences and paying high prices for everything they buy. These owners and workmen have had to enter new fields of labor, primarily in war production activity. Some of them will make good, others will prove to be misfits in their new endeavors.

If all these overnight changes are necessary for the successful prosecution of the war effort, that is one thing. But if many of them are not really necessary, not really justified—well, that is quite something else. At the best, plenty of changes will have to be made. A real effort must be put forth to keep these changes at a minimum. All the essential job swapping should be worked out in a sane and sober manner, not brought about by the whim of some bureaucrat trying out his newly gained power.

When one business after another fades from the field of activity, the effect on American life as a whole is certain to be bad. We need the so-called small business no less than we need the giant factory. Just as one cogwheel fits into another cogwheel, so small business works hand in hand with big business.

The sum total of all business, big and little, is simply business—American business. No one need raise the question of big business versus little business. What we must concern ourselves with is the preservation of our business *system*, which is composed of small, medium and large institutions.

This system must be preserved for the sake of the American people—one of the peoples in the world that love freedom and independence enough to fight long and hard to preserve it—that will voluntarily give and give of their material wealth—a people that will voluntarily send millions of young men onto foreign battlefields to fight for the right.

More and more people are questioning the soundness of so much experimentation at a time when battles must be fought and won. Haven't we had enough experience successfully to wage this war without upsetting the whole economic applecart? A business should not be put out of existence for no better reason than that some theorist considers it a good thing to do. The important thing now is so to serve our immediate needs that our business structure won't be changed into a wavering and hollow shell of its former self.

The truth is—and the American people know it—that all the bureaus in the world can't win this war. And when bureaus are used like a new Christmas toy, just for the fun of the men in charge, the war effort actually is damaged. Children play with toys; grownups employ tested tools to carry on their respective trades. Today, above all times, we should forget the toys and concentrate on the most effective use possible of the tools available to us.

Ordering Your Right Valve

today calls for a lot of "Know-How"...

THE PROBLEM

1

With valve materials on the "critical" list, your valve should contain the minimum of material essential to its purpose. In other words, exactly the correct size and type should be selected.

2

Mistakes in specifying valves can prove costly both to you and the war effort. And servicing or replacements to cover such mistakes become more and more difficult.

3

The war "turnover" in Purchasing, Engineering, and Maintenance personnel may have taken some of your valve experts.

A SOLUTION

1

To make sure, our Engineering Department will gladly check your valve specifications, if you will indicate carefully the proposed application.

2

The **RELIANCE** line of regulators is complete . . . for the control of all volumes, all pressures, all differentials . . . for a wide variety of gases and liquids. You need order no makeshift size or type.

3

RELIANCE regulators have an unsurpassed performance record in positive action, strength and durability, mechanical adaptability . . . **MAINTAINED SAFETY** . . . in domestic, commercial or industrial service. A maximum service return upon your investment.

ANOTHER CONSTRUCTIVE SUGGESTION . . . Build up a permanent and authoritative reference file on regulators, for the benefit of newcomers on your staff.

For example, write for copies of our new **BULLETIN** 49. It gives complete details on a typical assortment of Relief Valves, Differential Valves, Back Pressure Valves, Pressure Limiting Valves. (Types "RV", "RV200" and "RV201", "ASO", "HPR", "CBV" and "CBVA", "DV200" and "DV201", "PLV.")

Included are valves for safeguarding consumers' service . . . valves for protecting meters, pumps, other valves, transmission lines . . . valves for flow control in various inlet and outlet differentials. They are valves with specialized functions; are of advanced engineering design, and incorporate many original features. All afford easy maintenance.

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REGULATOR CORPORATION
ALHAMBRA, CALIFORNIA

1969

AMERICAN METER COMPANY
INCORPORATED ESTABLISHED 1836
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THERMALLY THINKING

By ELLIOTT TAYLOR, Washington Editor

Merchandising

THE idea prevalent a year ago that gas companies should attempt to keep their merchandising departments intact against the day when there would again be something to merchandise went out the window with the declaration of war in Dec., 1942. Since then merchandising has become just another war casualty, yet there is still every reason to take whatever steps are possible and feasible to insure that it does not become an outright fatality.

Elliott Taylor

Several attempts have been made to accomplish at one stroke the freezing of war-engendered excess purchasing power, and the commitment of that purchasing power for some particular commodity or commodities after hostilities have been terminated. A plan for the installment buying of goods during the war, to be delivered after the war, was advanced by one of Leon Henderson's staff when he was price administrator. The then OPA head thought the scheme OK but the treasury department opposed it. The AGAEM has had a similar plan in the mill ever since last summer, the idea there being to tie in present purchase of war bonds with a future delivery of a CP range.

Now the Hartford Electric Light Co. has come out with a plan of its own and is reported to be selling electric ranges, refrigerators and hot water heaters on present installment payments for post-war delivery of the merchandise. The highlights of the Hartford scheme are a tie-in with the local bank, which collects the installments and invests them in government bonds; the signing by the customer of a lump sum order for the appliance he wants at pre-war prices (these prices of course are stipulated as being subject to adjustment when post-war models and prices are announced); inducements to the buyer include a priority on delivery of first models available and discount on whatever established price may ultimately be set for the item that he has contracted for. While the Hartford Electric Light Co. is back of the plan, the actual orders are booked through electrical appliance dealers.

We have not had the opportunity to examine the plan in all of its details, but on the surface it would appear to be an idea that the merchandising gas companies should take under immediate consideration. If the practice spreads, as smart merchandising ideas do spread through the electrical industry, it may mean that a sizable backlog of actual orders for new electrical models will be waiting manufacturers of these appliances, while the gas industry is getting itself geared up to go out and find all of those prospects that wartime restrictions have theoretically piled up. It is noteworthy that the items on which the plan is focused are refrigerators, ranges and water heaters, the three appliances that the electrical competition has been trying most desperately to wrest from gas.

■ ■

Industrial Service

THE service that the industrial gas engineer can render often goes much farther than that directly connected with heat application problems. That is the opinion of J. P. Leinroth, Public Service Electric & Gas Co., Newark, N. J. For example, the dislocation of industry today often finds one plant looking for work while another plant is looking about for a company with which it can place orders on a subcontract basis. Here the industrial gas engineer can render a valuable service. His knowledge of the plants in his territory can often result in bringing these two togther.

Never was there a time when the industrial gas engineer can be of so much service and never was he given such an opportunity to foster good will for his company and to increase its prestige in the community. If it is important that customers install the proper kind of equipment, it is no less important that the industrial gas engineer be on the ground to advise them what kind of equipment to install. In too many instances customers are allowed to order equipment without making a reasonable effort to check the type of equipment they should buy; too often equipment is ordered without the company's knowledge; too often this equipment is not the type best suited for the purpose. This can only result in poor performance, dissatisfaction and loss of prestige to the gas company.

It was never more important that the industry maintain its full complement of industrial gas engineers and that these men work harder, plan more carefully and be more alert than ever before. There will never be a time when good service will bear more fruit.

■ ■

The Month

If the industry gets through the month of February without any more serious gas shortages than were experienced during December and January, the fear of gas rationing for domestic purposes will probably be removed at least until we see how things begin to shape up for next winter. The regional pooling of gas reserves in the Middle West will no doubt be extended to other areas where shortages are within the range of WPB anticipations. Credit for the government's share in averting any of the threatened general curtailments must be assigned to the offices of PAW where the spade work was accomplished and not to the power division of WPB, which made the successful rush for the headlines.

• •

It is urgent that all gas utilities get their personnel practices in line with the policies of the War Manpower Commission's committee on fair employment practices, which means that any discrimination against Negroes must be scruplously guarded against. WMC press releases are monotonously replete with intimations that Negro

manpower is not being sufficiently considered. To satisfy the WMC it is probable that personnel officers must be formally instructed to employ and place workers solely on the basis of their technical qualifications for the job; employment application forms must not contain any reference to race or religion; and any bargaining agency to be recognized by the company must have a policy of no discrimination.

■ ■

Post-New Deal Planning

THERE are unmistakable indications around Washington these days that in some not quite definable way the road ahead is smoothing out for the gas utilities to a degree that we would not have felt safe in anticipating when our phase of the present war started a little over a year ago. It is true that operating problems, involving as they do questions of material shortages, priorities of wartime rights to first call on available manpower, the equitable distribution of available fuel supply consistent with both civilian and industrial demands — all of these and innumerable other questions large and small will continue to demand an unprecedented amount of managerial time and managerial attention. But these are demands that are being made on all industry, and are legitimately to be classified as all industry's rightful contribution to the national welfare in time of crisis.

But there seems today to exist this fine though almost intangible difference from the situation of a year or so ago—the feeling that private ownership has more than measured up to the crisis requirements, whereas social planning under New Dealism has failed to assume the stature that pre-Pearl Harbor philosophers had assigned to it. Thus, while noisy administration propagandists were filling the air with their tirades against the "business-as-usual complex" of industry, the conviction was quietly riveting itself upon the rank and file of the citizens of our democracy that not "business as usual" but "politics as usual" was the basic handicap in our march toward national unity of spirit and effectiveness in the production and utilization of the materials of war.

Those quiet but vicious little struggles for power within the ranks of WPB and other top-flight agencies in the war program, the bitter jealousies over prerogatives as between one agency and another, the unremitting injection of the "planned state" ideology into the necessary expediencies of the moment —all of these were observed by the common citizens of the republic, who after all are the ones who are called upon to sacrifice and to die as the criterion of their devotion. And out of these observations there has grown, not a relaxing of the patriotic devotion to the common welfare of our country, but a gathering conviction that the democratic processes can only be safeguarded and preserved by an unwavering adherence to the instruments of democracy even in the dark threat of national peril.

This, the underlying fundamental expression of public concern over public affairs, explains more than could ten thousand words of administration apology the reason for the difference in temper and tone of the present congress from that of its little mourned predecessor of the past two years. It explains the belief that competent observers have expressed that the new congress will accomplish much toward the restoration of the legislative power that is its historic function—a function lethargically abandoned to bureaucracy under a decade of unremitting executive pressure.

Congress has already displayed its dissatisfaction with the curt and contemptuous treatment that has been its portion at the hands of the autocrats of the planned society. This dissatisfaction presently takes the form of an increasing number of congressional investigations, either in project or already under way. The recent increase by WPB in the allotment of critical materials for farm machinery was a direct and almost instantaneous result of such an investigation. Under the threat of withholding appropriations it is exerting its influence on other agencies. Leon Henderson's "bad back" necessitated his retirement from the OPA, but the acute physiological stage of his malady seemed to have coincided with threats of curtailment of funds for the necessary work of the office so long as Henderson headed the effort.

All of this does not mean that the natural gas industry can now start looking for special concessions, or that in some miraculous way it will be spared a further aggravation of the hardships and inconveniences that the war shortages are inevitably bound to create. But it does mean, in our opinion, that now for the first time in over 10 years these utilities may proceed under the assumption that the planning they do now for the post-war years may be predicated on a reasonable confidence that there will still be privately owned public utilities in the post-war, and the post-new deal world. Many administration satellites are still whirling around in the stratosphere of social philosophy, resting their confidence on the ultimate efficacy of reforming the world by executive fiat. But their basic philosophy has failed them, and its practical application to all of America, as distinguished from the few favored classes who have been its express beneficiaries, has failed them, too. Therein lies the hope and the promise not only for our own industry, but for our own United States.

■ ■

No "E's" for Utilities

Considerable publicity is now being given to the Army-Navy "E" Award of Merit being given to various companies and their employees. These awards are evidence of efficiency in performance and the meeting of production quotas on time; merely an acknowledgment that they have done what was expected of them.

The general public has become so accustomed to uninterrupted service by their public utilities that they seldom realize the effort and sacrifices our employees make to maintain this. They expect their gas, water and other services to be there when they demand it—and it is. Cold, heat, snow, hail or storm make no difference to our employees; production schedules must be met under all conditions, on Sundays, Decoration Day, Thanksgiving, and even Christmas. But we don't receive, nor do we expect, any special incentive to do our work; we know what is expected of us—and do it.

A good example of the way our employees meet emergencies occurred on Sunday, Dec. 20, at the gas plant. In sub-zero weather, with pipes and equipment frozen and three of our regular employees ill in hospital or at home, our customers demanded a 25% increase in production, apparently for heat. They did not tell us in advance of their demands; they did not know we were short of help; they just expected us to do it—and we did, thanks to the loyalty of our employees who worked long hours under severe conditions.

This incident happened at the gas plant, but it might have been the electric plant or line crew, the gas or water service crew, or any other of our many departments. All of them have had to meet emergencies, and always the results are the same.

No, we will never receive the Army-Navy "E" Award, but we will continue to meet our production demands on time and to give the public the excellent service it demands, if it is humanly possible.

From where I stand it looks as if the employees of these companies are doing a swell job.—*H. H. Melvin, Millville Utilities, Millville, N. J.*

GAS at WAR

Washington Notes

Herewith a brief resume of the most recent actions taken in regard to war production orders affecting the gas utility industry:

Natural Gas (L-31): This order was amended Jan. 1, 1943, to include the following two major points:

1. The director general can prohibit deliveries to consumers having standby facilities which consumers have not provided with fuel.

2. Deliveries may be prohibited to consumers with gas-fired equipment which could have been converted to less critical fuel.

L-31 comes under the jurisdiction of the Power Branch of WPB; administrators are C. Brockschmidt and H. C. Porter.

Manufactured Gas (L-174): This order likewise was amended on Jan. 1 with the same two major provisions as listed for L-31 being brought into effect. L-174 was again amended on Jan. 20. In general the provisions are:

1. Each utility is requested to operate its system to achieve maximum output.

2. Each utility is ordered to investigate manufactured gas production facilities owned and operated by non-utility producers and to make arrangements for interconnections.

3. The order sets up a schedule to be followed in reducing deliveries in the event of a gas shortage. Excepting war production and essential civilian services, deliveries will be reduced in the following order: (1) to consumers with interruptible contracts; (2) to consumers with standby without regard to contract; (3) uniformly to commercial and industrial consumers in a manner to least affect essential services or cause permanent damage to the consumers' facilities; (4) on a uniform proportionate basis to all consumers.

4. Strict restrictions were placed upon deliveries of gas for space heating purposes to both non-domestic and domestic consumers.

5. Restrictions are placed upon deliveries when conversion to less critical fuels has been ordered.

Tin (PO M-43; Part 1001—Tin): War Production Board, as amended Jan. 9, 1943, limits the use of tin content in solder for the repair of gas meters to not more than 38% tin by weight. The total quantity of tin which any person may use in the manufacture of solder during any calendar quarter beginning Jan. 1, 1943, is limited to 50% of the quantity used by him in the manufacture of solder during the corresponding calendar quarter of 1940.

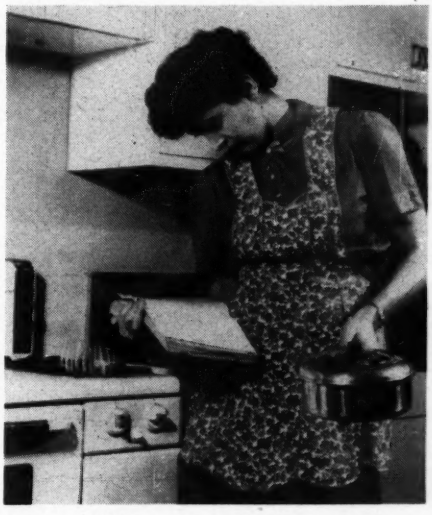
■ ■

Dry Gas Price Change

Taking into account the cost of increasing dry gas production through expanded drilling programs and operation facilities, the Office of Price Administration on Dec. 29 changed the base date upon which maximum gas prices are determined from Oct., 1941, to May 1, 1942.

Establishing maximum prices at the May 1 level will permit, in some instances, increase of prices paid for the gas in the field, but will not affect consumer prices, OPA stated. The adjustment in the base price date was necessary to relieve producers who between Oct., 1941, and May, 1942, entered into contracts involving drilling and expanded operations. The change of date will substantially eliminate production obstacles.

The change is contained in Amendment 51 to Revised Price Schedule 88 —Petroleum and Petroleum Products —and was effective Jan. 2.



Shown herewith is one of a series of photographs issued for general publication by the Office of War Information as an example of what not to do to conserve gas. The caption reads: "There's a time for everything and the time to read a cook book is before you light the gas, not after. Burners should not be lighted until the cooking utensil is ready for the flame. Whenever possible use low heat; whenever possible use direct heat, not the double boiler."

■ ■

Controlled Materials Plan

Early in January the WPB began a nation-wide distribution of the official "Controlled Materials Plan Class B Product List." Copies may be obtained from the War Production Board, Washington, D. C.

Finished products are divided into Class A, Class B-I and Class B-II. In Class A are the large end products such as tanks, ships and airplanes. In Class B-I are standard parts or sub-assemblies such as bearings, motors, burners, etc. These are listed in the prime bill of material by number and type, and their manufacturer gets his own allotment by submitting his own bill of material to his WPB industry division. In Class B-II are small items such as bolts, nuts and items of civilian supply. Gas appliances, plumbing supplies and maintenance supplies come in this class. The material needs for Class B-II items will probably be estimated by WPB industry divisions and for these the Office of Civilian Supply will act as claimant agency.

Present plans are for manufacturers to continue under the production requirement plan for the first quarter of 1943, and during the second quarter also if CMP allotments have not been given them. WPB hopes that by the beginning of the third quarter CMP will be in full control.

■ ■

Idle Trucks

The Office of Defense Transportation reminds owners of commercial motor vehicles that all "idle" trucks, buses and other vehicles—except taxicabs, rental cars, hearses and ambulances—must be reported to the ODT.

Reports should be made on ODT Form CWN-3, a simple, single sheet form of only eight questions which can be obtained from and should be returned to the vehicle owner's local ODT district office.

Owners are required to list all commercial motor vehicles which were idle during the last 14 days of the month. The report should be filed within five days after the last day of the month covered by the form.

Commercial vehicle owners with no idle equipment need not report.

GAS AT WAR

WPB Decentralization

A further step toward decentralization of the War Production Board was taken Jan. 8 with the granting of increased authority for approval of individual emergency preference ratings to the field offices of WPB.

The 12 regional directors of WPB are now authorized to approve, countersign and issue individual preference ratings for emergency repair, up to and including AA-1 in accordance with specific instructions to be issued from time to time by the deputy director general for distribution. Regional directors may authorize the deputy directors to perform these functions.

In addition, the 110 district offices may for the first time grant ratings for emergency repair, up to and including AA-2X.

The authority delegated is limited to cases where the material for which the applicant seeks priority assistance does not exceed $500 in value.

■ ■

Note From England

Davis M. DeBard, vice president, Stone & Webster Service Corp., New York, has received another interesting letter from one of his English friends, M. Milne-Watson, vice president of the British Gas Light & Coke Co., Westminster, London. One question is of particular interest:

Question: Have utilities been able to adjust their rate structures to compensate the rising costs?

Answer: Under the Defense (Gas Charges) Order, 1941, no increase in the price of gas may now be made except under license from the Ministry of Fuel and Power. This license is granted only after government auditors have made fullest investigation of the company's accounts. Three price increases have been made by this company since the war broke out—one in Nov., 1939, and two under license. The first license was granted in Feb., 1942, the second in Aug., 1942. Just before the war, for gas in the central area, British Gas Light & Coke Co. charged 19¢ per therm. This was raised in Nov., 1939, to 24¢; in March, 1942, to 27¢, and in Aug., 1942 to 28¢ per therm. These increases in the price of gas were related entirely to the cost of manufacture and applied to gas supplied to industry as well as to domestic users.

■ ■

Essential Workers

In furtherance of the program to keep essential workers in activities which contribute to the war effort, the Selective Service Bureau of the War Manpower Commission has advised local boards of 34 essential occupations in repair and hand trade services, in which occupations registrants may be deferred as "necessary men," it was announced Jan. 9.

Pointing out that the War Manpower Commission had certified that repair and hand trade services are essential to the support of the war effort, the Selective Service Bureau said that its occupational bulletin on this activity includes "repair of buses, trucks, tires, refrigerators, stoves, roofing, electric, gas and plumbing installations in domestic, commercial, and industrial buildings."

■ ■

Official Washington

A former TVA official, J. A. Krug, was named the country's power administrator Jan. 22 and responsible officials predicted that one of his major problems will be averting a natural gas shortage next winter.

Mr. Krug was set up by Chairman Donald M. Nelson of the War Production Board as head of a new office of power director, responsible for electricity, gas, water and communications. The authority of the office is comparable, Mr. Nelson said, to that of Harold L. Ickes over petroleum and William M. Jeffers over rubber.

James S. Knowlson resigned as vice chairman of the WPB to resume his duties as president and chairman of the board of the Stewart-Warner Corp. in Chicago. He is being retained within the board on a "when actually employed" basis so that he can be called in as a consultant or special assistant from time to time, WPB Chairman Nelson said.

William K. Frank, formerly deputy director of the General Industrial Equipment Division of WPB, was appointed director of the division. He will

Samples of Conservation Advertising Tieing in With the WPB Campaign

INFORMATIVE ADVERTISEMENT

It's up to you!

PLEASE DON'T USE YOUR GAS RANGE AT ANY TIME FOR ROOM-HEATING PURPOSES

Remember Our War Message

Gas in your community is used to a very great extent in the production of war equipment and materials. To assure a constant and full supply of this essential fuel for these purposes, the War Production Board of the United States requests your co-operation in these specific ways:

THE WAR PRODUCTION BOARD SAYS:

"If all consumers co-operate, it will be possible to maintain constant and full service to our industries, hospitals and other essential civilian services during periods of extreme cold weather. Such sacrifices will represent an important and patriotic contribution to the war effort."

When the temperature is ten degrees or less.

1 Don't use ovens—use only the earliest heating units—participate all baking and roasting.
Do all cooking at one time for each meal.
Use prepared foods to the greatest extent possible.

2 Don't use gas-fired tank water heater.
If you have an automatic gas water heater or if your gas furnace has a coil heater, use as little hot water as possible.
Put off daily bath or shower. When you do bathe, use minimum amount of hot water.
Postpone washday and housecleaning where hot water is needed.

3 Turn down gas furnace thermostat at least five degrees below your normal setting.
Live in as few rooms as possible and shut off the heat in other rooms.
Shut off heat in bedrooms if you can possibly do so.

Save for Uncle Sam! Buy War Stamps and War Bonds!

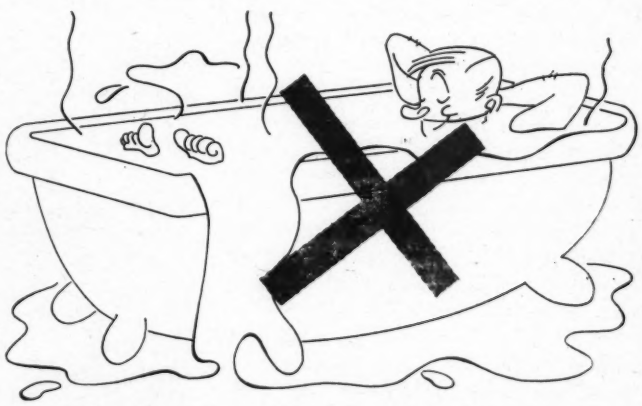
THE BROOKLYN UNION GAS COMPANY

AT LEFT

Here is a sample of the type of informative advertising the Brooklyn Union Gas Co. is scheduling to keep gas consumption down. W. B. Hewson is the company's manager of publicity and advertising.

AT RIGHT

A touch of humor appears in the advertisement prepared for the Metropolitan Utilities District of Omaha. The company has been carrying on a continuous educational series, according to F. C. Miller of Bozell & Jacobs, advertising firm conducting the campaign.



PLEASE DON'T WASTE GAS HOT WATER

WAR INDUSTRIES are using huge quantities of gas this winter, as they work night and day turning out the equipment needed by our fighting men. These war needs for gas must be met, even during the coldest weather, when domestic gas consumption is at its all-time peak.

It is imperative that you conserve gas in your home, particularly during January and February . . . the months when strain on your gas system is greatest. By saving gas you not only help Uncle Sam and the war effort, but you also help prevent possible low gas pressure and service difficulties which would interfere with your own gas service.

Here are a few suggestions that will help you save gas hot water . . . whether you have an automatic gas water heater or a hand-operated gas hot water tank: (1) Repair leaky hot water faucets: (2) Set your automatic water heater thermostat control for "medium heat": (3) Don't let hot water run while washing hands, dishes, or while shaving: (4) DON'T USE ANY MORE HOT WATER IN YOUR BATH THAN NECESSARY.

Please remember—when you waste hot water you WASTE GAS! It is imperative that you use your gas service SPARINGLY this month and next . . . use less gas for cooking, water heating and home heating!

Metropolitan Utilities District

SAVE GAS *to help him!*

continue to act as chairman of the WPB Resources Protection Board.

The appointment of John R. Kimberly as assistant director general for operations was announced Jan. 12 by Ernest Kanzler, director general. Mr. Kimberly was formerly deputy director general for industry divisions.

Curtis Calder, who has been assistant to Mr. Kimberly, will become deputy director general for industry divisions, and his assistant will be Dr. Ernest W. Reid, who has been chief of the Commodities Bureau.

■ ■

Gas Line Converted to Oil

The Humble Pipe Line Co. notified Texas Railroad Commissioner Beauford Jester Jan. 20 that the defense plant corporation had purchased the United Gas Co.'s Refugio-Pierce junction line and named Humble its agent to convert the line to oil transportation and extend it to Houston.

Humble will begin immediately to build five pump stations and the additional 15 miles of line from Pierce Junction to Houston, J. A. Neath, president, informed Jester.

Mr. Neath explained the defense plant corporation would want crude and heating oils moved from the Corpus Christi area to Houston in the converted line. He estimated conversion and extension would be completed in 90 days.

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Gas Men Overseas

Pacific Gas & Electric Co.: The January issue of *P. G. & E. Progress* carries the stories of several of its employees whose exploits overseas are helping to make current history.

"We opened up at spitting range on a new Japanese cruiser," is the way Alvin Zeff, radio man second class, refers to the epic fight of the United States light cruiser Boise on last Oct. 11-12 when she sank six enemy warships in 27 minutes.

Mr. Zeff was formerly a salesman for the Pacific Gas & Electric Co., San Francisco, and has been in the navy since Oct. 15, 1940.

He is but one of an ever-increasing number of gas industry men who are helping to press the Allies' advances on world war fronts, many of whose exploits will not be reported until after the war.

Among other heroes is Lieut. James W. Darroch, U. S. N., and formerly an electrical engineer in the drafting department of P. G. & E., who was mentioned in recent dispatches for his bravery during the invasion of North Africa.

Lieut. Darroch and six men in a small boat braved French batteries, and with wire cutters weakened the steel nets guarding the mouth of the Sbu river at Port Lyauety, French Morocco, enabling a stripped-down warship to crash through the net and capture the strategic Port Lyauety airdrome.

President Roosevelt recently presented to Lieut. Daniel J. Callaghan, Jr., of Oakland, Calif., who was before he enlisted in 1941 a salesman in the San Jose, Calif., P. G. & E. office, the Congressional Medal of Honor, awarded postthumously to his father, Rear Admiral Daniel J. Callaghan, for "extraordinary courage and conspicuous gallantry" in a furious battle against a Japanese armada off the Solomon Islands last November. At the height of the conflict the admiral was killed on the bridge of his flagship, the cruiser *San Francisco.*

Cincinnati Gas & Electric Co.: Word that Lieut. Wilbert L. Thompson, a former tester in the laboratory division of the Cincinnati Gas & Electric Co., was safe after having been blown from the cruiser San Francisco during one of the spectacular battles in the Solomon Islands, was received just before Christmas by his family. The message from the Navy Department read:

"Lieut. Thompson was blown overboard from the San Francisco during the night action and was reported missing in action. Several days later a dispatch was received by this ship stating that Lieut. Thompson had been rescued from the water by American units and that he had suffered a fractured hip. He is receiving medical attention in a hospital at an American base and should recover."

Community Public Service Co.: Major John W. Turner, Jr., is a Japanese prisoner and was not killed in action at Bataan, as was feared, according to word received by his family from army headquarters in December. Major Turner was an employee of the Community Public Service Co. in Silver City, N. M., and five other company men served with him in the 200th Coast Artillery Anti-Aircraft Corps in the Philippines. They are: Serg. Alvin Wheeler, Lieut. James W. Chaney, Lieut. Albert Candiello, Serg. Walter Gentry and Lieut. Jack Kennaman.

Peoples Gas Light & Coke Co.: Capt. Paul C. Cooke, formerly of the methods and routine department of the Peoples Gas Light & Coke Co., Chicago, is a prisoner of the Japs in the Philippines, according to a dispatch from the War Department to his wife, Dec. 15. Capt. Cooke was called into active service two years ago while a member of the reserve corps.

Canine Guardians

There's a new name on the payroll up in the Ventura district of the Southern Counties Gas Co., Los Angeles. It is "Blackie." That's all. He's down for one pound of meat a day and found. He happens to be a dog and his job is to guard the warehouse and construction headquarters on Hemlock St.

"Blackie" is one of the three dogs the company has "hired" for the duration to protect plants and warehouses in the districts against possible marauders. Employment of this means of protection was instituted, it is understood, after one or two instances of petty thievery had been reported, and the manpower shortage made it evident that men could not be used as guards.

A second dog, "Amigo," is serving in the northern district and a third was on the job in Monrovia, Calif., until he established too wide an acquaintanceship in the neighborhood. He is being replaced by a less friendly animal, Manager A. E. Madden reports.

■ ■

Joint Facilities

Subcommittees were recently formed by Petroleum Administrator Harold L. Ickes to study and develop plans for the joint use of facilities in the production, transportation, refining, marketing and natural gas and natural gasoline branches of the American petroleum industry.

The following chairmen for the Natural Gas and Natural Gasoline Subcommittees have been appointed: (District No. 1), D. P. Hartson, Equitable Gas Co., Pittsburgh, Pa.; (District No. 2), A. W. Ambrose, Cities Service Oil Co., Bartlesville, Okla.; (District No. 3), to be announced later; (District No. 4), Robert W. Hendee, Colorado Interstate Gas Co., Colorado Springs; (District No. 5), O. C. Field, O. C. Field Gasoline Corp., Los Angeles.

"THEY GAVE THEIR ALL"

Raymond Pastre, 24, killed in action while serving in the navy on board a light cruiser. Employee Pacific Gas & Electric Co., San Francisco.

Lieut. John F. "Jack" Hugenberg, 23-year-old naval officer, Jan. 15 in the crash of a naval patrol bomber at Dallas, Texas. He was en route from Washington, D. C., to California for assignment to a new submarine chaser. Employee Cincinnati Gas & Electric Co., Cincinnati, Ohio.

Pvt. Robert F. Heimbrook of the U. S. Marines on Guadalcanal on Sept. 14 while going to the aid of the wounded following a battle. Employee Cincinnati Gas & Electric Co., Cincinnati, Ohio.

Precautions in Plant Protection

By J. Y. WHEELER

Vice President and Manager, Lone Star Gas Company, El Paso, Texas

OUR planning and preparation for the protection of our properties in El Paso, to prevent service interruptions, meet emergencies and to restore service in the shortest possible time, should the same be interrupted, are as follows:

1. All nightwatchman service at our manufacturing plant and shop offices.

2. In addition to No. 1 above, we have one of our foremen residing on the warehouse property.

3. One of our foremen resides at our Luna St. power house and holder site.

4. Another employee resides at and watches over our No. 2 holder property on Canal St. All of these properties are fenced and undergo daily inspection.

5. We maintain a strict account of all keys to company property in the hands of employees and take up keys when employees leave our service.

6. All employees are fingerprinted and carry identification cards. All outside employees wear company uniforms, bearing company emblems.

7. All employees are organized into a gas division of the El Paso Civilian Defense Council, are trained for emergency work, and hold regular meetings to keep the gas division in readiness for immediate emergency service.

8. Gas company employees serve regularly as all-night operators of the "Control Center" of the El Paso Civilian Defense Council; they also act as instructors in the operation of this control center. The control center is a clearing house for receiving and dispatching "trouble calls," is equipped with a dozen telephones, and is operated each night under "make-believe" raids, service interruption, blackouts and property damage. This center is under the control of the El Paso police department and the Civilian Defense Council.

9. Our employees are further trained in civilian defense as relates to the gas business through the use of a Gas Division Manual which I have prepared and which has proven invaluable to our key men and women. This manual has been approved by the El Paso Civilian Defense Council. The city of El Paso is reproducing this manual for use among its employees.

10. We keep posted at our warehouse and power plants signs reading: *No Admittance—Employees Only.*"

11. We keep a correct list of addresses and telephone numbers of employees.

12. We have certain key men designated to pick up employees who do not have telephones and cars of their own, and transport them to places where they may be needed in emergencies.

13. Our local management maintains close and advisory cooperation with the city police department and the FBI in the matter of keeping our employee personnel free from untrustworthy or dangerous elements.

14. We maintain a direct private telephone between our field office (24 hours) and the city police and fire departments.

15. We have furnished the police and fire departments a map or blueprint of all our properties with the aboveground, focal points clearly set out.

16. We maintain close contact with the El Paso Natural Gas Co. (the pipeline transmission company from which we buy gas) and secure from the pipeline company reports on loads, line capacities, pressures, weather conditions and on matters pertaining to continuous uninterrupted service.

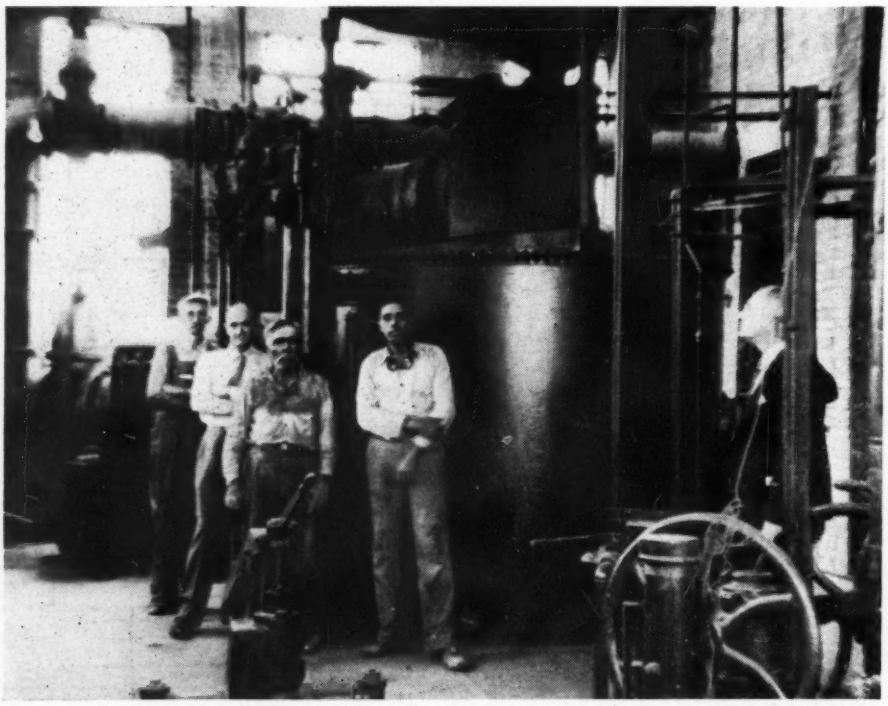
17. All metering and regulating stations supplying military areas are under fence, and military guard, and are not accessible even to our own employees, except those who are furnished military identification cards and passes.

18. We have so planned our distribution system that we are able to supply all military areas directly from our city distribution system and also directly from the pipeline company's transmission lines.

19. Our trucks, automotive and other equipment are readily distinguished by standard company colors and company signs and company numbers.

20. We have planned ahead and have in stock in our warehouse and on our pipe yard (under fence or lock and key) ample repair supplies consisting of pipe of all necessary sizes, together with fittings, leak clamps, sleeves and all other material and supplies that would be required in emergency repair work.

In addition to the matters above enumerated, we have, since our country entered the war, further rehabilitated our gas manufacturing plant and the same is now in good operating condition. This plant has been successfully operated on several occasions. The plant produces a high Btu. fuel which is comparable to natural pipeline gas. The manufacturing capacity of this plant, which is 120 M c. f. per hour, together with our holder capacity of 2,000,000 M c. f., afford us some valuable security in case of pipeline or distribution system breakdowns. Our holders (3) are kept stored to capacity.



The gas-making machine of the Texas Cities Gas Co. (now Lone Star Gas Co.) at El Paso, Texas. Left to right: J. A. Pierce, general repairman; L. E. Morris, service foreman; Jesus Guerrero, engineer-fireman; Cecilio Bustamente, gas maker; J. Y. Wheeler, vice president and manager. Not shown, B. B. Stringfellow, general superintendent.

■ ■

More on Bombs

A leaflet which answers such salient questions as "What kind of bombs may the enemy drop on our cities?" has been issued by the editorial section of the U. S. Office of Civilian Defense, Washington, D. C.

This fire bomb fact sheet contains information on types of enemy bombs and methods of extinguishing them. For further information communicate with Randolph Feltus, chief, Editorial Section, Office of Civilian Defense, Washington, D. C.

Protecting Gas Holders Against Bombing Attacks

By JOHN N. DORAN

Pacific Gas & Electric Company, San Francisco

STEEL drums filled with heavy sticky mud are placed on the crowns of all holders in the San Francisco division to stop leaks or ruptures made in the crown sheets should the city be subjected to aerial bombardment. I might also add that on each holder walk there are drums of mud kept moist and ready at all times to take care of the side sheets.

As a further precaution, a snuffing device, made by R. A. Hanson of the Potrero gas plant, was installed on the holder crowns. (See Fig. 1.)

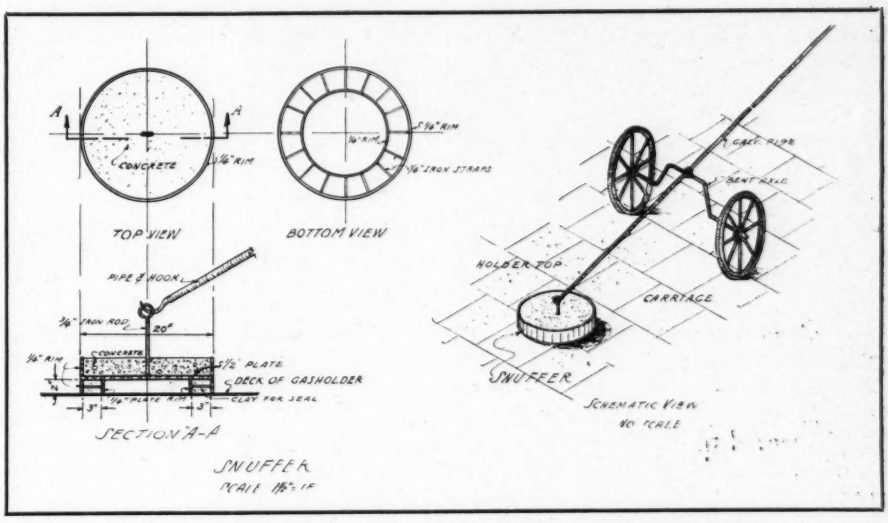


FIG. 1. Snuffer for extinguishing fires in holder tops due to bombing.

This snuffer is a circular piece of ½-in. steel plate 20 in. in diameter with a 3-in. ring welded around the periphery, vanes were welded inside this cup, sticky mud is then packed within this circular space. An inverted U bolt was then welded on the top side so that the snuffer can be picked up by a hook welded on the end of about 20 ft. of 2-in. pipe. This 2-in. pipe was then made fast to an inverted U axle set on an old pair of wheels with proper balance allowed so that it would be easily handled. Enough weight was added to the snuffer to overcome the holder pressure. Should the gas take fire from a bomb dropped on the crown of a holder this device could be wheeled in place and dropped over the hole, sealing off the escaping gas and extinguishing the fire.

This has been demonstrated at Potrero gas plant by using a 16-in. line from one of our holders with an elbow welded on the end looking up, and a piece of plate was welded on this end to simulate a holder crown. A valve on this line was opened wide and the escaping gas set on fire, sending a flame into the air about 30 ft. The snuffer was then wheeled in place and dropped over the opening, immediately snuffing out the flame. This is a practicable and safe method of controlling such fires.

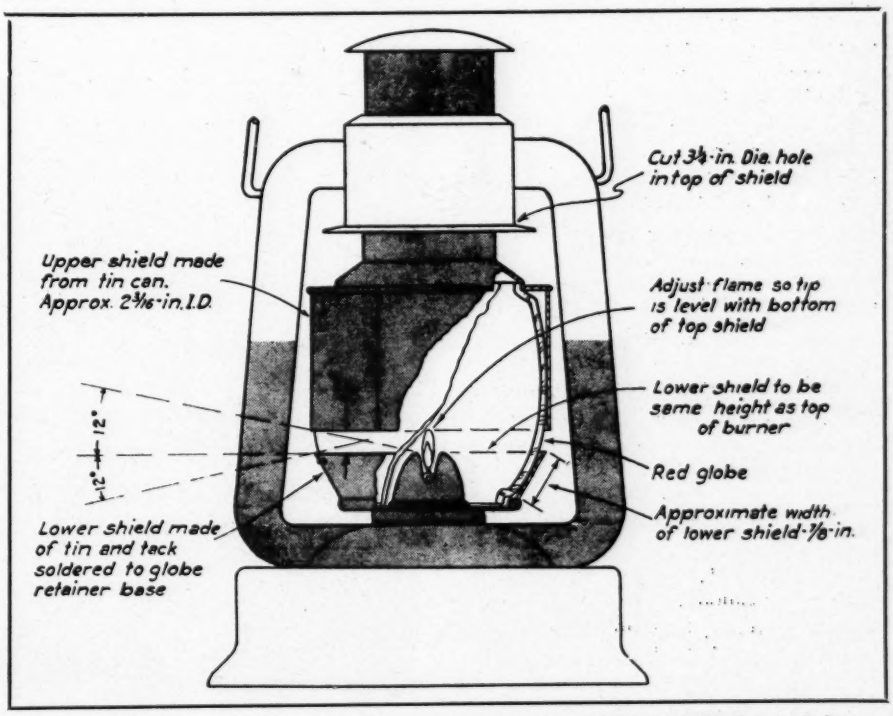
*Presented before the Production Conference of the Pacific Coast Gas Association, San Francisco.

Blackout Lantern

The blackout has brought many inventions to "light" and one of the latest is the development of a blackout lantern designed by T. H. Shepherd, light control consultant for the Los Angeles area, U. S. O. C. D., for use on excavations during full blackouts. Southern Counties Gas Co., assisted by Frank Hansen, light control consultant, U. S. O. C. D., and Dr. Boelter of the University of California are responsible for the lantern.

C. F. Briscoe, construction engineer of Southern Counties, was in charge of the pioneer work on the lantern. He believes that the use of a shield is much more desirable than the customary glass globe because any opaque material placed on the glass absorbs lantern heat from the flame, causing considerable rise in the temperature of the globe and making it more susceptible to breakage from water.

This lantern was described in an article published in the Sept. 24, 1942, issue of *Oil and Gas Journal* and also in *Gas News*, published by Southern Counties Gas Co.


Cut 3¼-in. Dia. hole in top of shield
Upper shield made from tin can. Approx. 2⅜-in. I.D.
Adjust flame so tip is level with bottom of top shield
Lower shield to be same height as top of burner
12"
12"
Red globe
Approximate width of lower shield 1/8-in.
Lower shield made of tin and tack soldered to globe retainer base

This blackout lantern was designed for use on excavations during full blackouts. It has been adopted as standard equipment by pipeline companies transporting gas, oil, and gasoline. Note that the shaded portions, top of fount, and all interior metal surfaces are painted black. Drawing courtesy Oil and Gas Journal, Sept. 24, 1942.

California Storm Tests Emergency Program

Pressure Reduction Plan Proves Value To Los Angeles Utilities

RECENT rainstorms in Southern California which produced flood conditions on Jan. 22-23 brought into play to a limited extent a carefully worked out emergency program developed jointly by the two largest distributing companies in that area, Southern California and Southern Counties Gas Companies.

The initial phase of the program consisted of an advertising series designed to acquaint the public with the problem of service under wartime conditions and to secure its cooperation in the event an emergency made it necessary to curtail gas consumption.

The second phase developed directly from actual field tests in reducing gas pressures to reduce sendout volume in anticipation of possible periods of shortage, and the third covered an instruction campaign to employees and customers with the object of obtaining quick restoration of service after any forced shut-off.

Educational Program

The first plan was covered in a booklet the two companies distributed to their customers, which states: ". . . the problem this winter is a deliver the huge volume of gas needed in wartime through a network of pipelines which was designed for peacetime. Moreover, this network cannot be expanded, for it would take hundreds of tons of steel more vitally needed on other fronts."

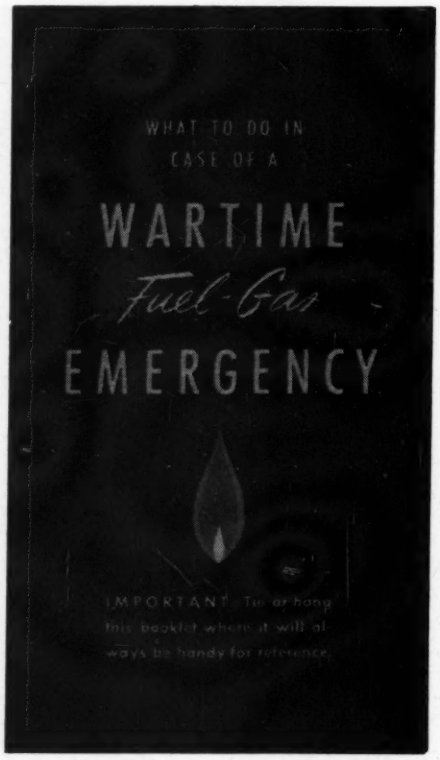
This educational phase of the program was begun during the first week of November, when the first of the advertisements began to appear.

According to a story appearing in Southern California Gas Co.'s bi-weekly newspaper, *Gas NewsWeek* on Nov. 10, the advertising series "ties in with a national fuel conservation program initiated by the War Production Board." The national program, the article said, arose out of the fact that there are severe fuel scarcities in certain sections of the country. "Locally, the problem, if any, will be that of supplying adequate gas on peak days."

"Consequently, in the current series of advertisements," the story stated, "stress is being laid on the 'peak demand' phase of the local gas situation. The extensive and vital use of gas in war production is emphasized and the inability of the gas companies to expand the system due to shortage of critical materials is pointed out."

In the first advertisement the public was informed that the task of meeting the demand for natural gas, so tremendously expanded by war plants and new housing, is without precedent in history. Attention is called to the fact that because war production must go on without interruption, the need for civilian uses becomes secondary in importance. "Under these conditions, certain situations," to quote the first advertisement, "such as extremes of weather, could create temporary emergencies when this peacetime system might well be unequal to the task." And the public was told that they might be asked to use less gas for house heating as long as necessary in order that war work could go on.

Subsequent ads have stressed war industry gas requirements and asked for public cooperation in case an emergency should arise. Each carries the message: "Gas is vital to war production . . . use it wisely." Attention is called repeatedly to the fact that no shortage of reserve supply exists, and lest the public should wonder why there may be an emergency shortage, it is emphasized again and again that "gas is doing a double-duty wartime job with a network of pipelines designed for peacetime," and that the present system cannot be expanded because of material shortages. Cooperation in any possible emergency is asked as a patriotic war service.



By keeping this booklet always at hand, the gas consumer will always be informed on just what to do in case of an emergency fuel shortage.

In order that customers may know more specifically how they can cooperate in an emergency, the ad series has been followed up by a booklet, a copy of which has been placed in the hands of every customer in the systems of the two companies.

This booklet gives instructions on what to do in case an emergency makes it necessary to ask residential customers to curtail their use of gas temporarily or to shut off the gas supply in any area.

Types of Emergencies: It was prepared for use only in case a warning is given by the gas company by radio or through the newspapers that a wartime fuel-gas emergency exists. Two types of emergencies are envisioned:

(a) Peak load conditions that make it necessary to cut down on the use of gas for heating in homes and stores; or

(b) An actual interruption to the supply that would require an immediate shut-off.

In giving the reasons why it is important that people be prepared for either one of these emergencies, President F. S. Wade says for the company: "Always in the past, household users of natural gas have been given first call by your gas company over industrial users. This is rule No. 1 in our business, which we have never violated. If we do so, it will be for only one reason—WAR."

"Fortunately," he goes on to say, "the reserve supply of natural gas in Southern California and our delivery facilities are the greatest known in history—fully adequate, we think, barring certain temporary emergencies (such as extreme weather conditions) to take care of war work as well as civilian requirements."

Instructions: These are divided into two categories. In the event an "Emergency A" (caused by an exceptional peak load) occurs, people are asked to use less gas for heating. It is suggested that if the gas company makes an appeal by radio or through the newspapers, gas users (1) put on

warmer clothes and cut down use of gas as much as possible, (2) close off unused rooms and only use as much of the house as absolutely needed, (3) use furnaces sparingly and keep them low, (4) put push button controls on low and close off registers in unoccupied rooms, (5) if the heat is controlled by thermostat, set the temperature at 65°, (6) use wood-burning fireplaces where possible during emergencies, and (7) turn off the furnace when leaving the house and when retiring.

In the unlikely event that an "Emergency B" or actual interruption to service occurs, instructions are given as to how to shut off various gas appliances. If such emergencies occur, the areas affected will be described over the radio, and people within them will be advised over the air to "turn off your gas appliances promptly."

"Your first thought may be to turn off your gas meters," the instructions state. *"This should not be done.*

"Instead, remember your radio instructions will be, 'Turn off all your gas appliances promptly.' So simply check every valve or burner 'handle,' and be sure it is off—and turn off pilots as well."

When notified that the emergency is over, customers are requested not to relight appliances unless they have done so before or until they have received instructions issued by the company.

Pressure Reduction

The second phase of the emergency program was covered in an article appearing in the Southern Counties newspaper, *Gas News.*

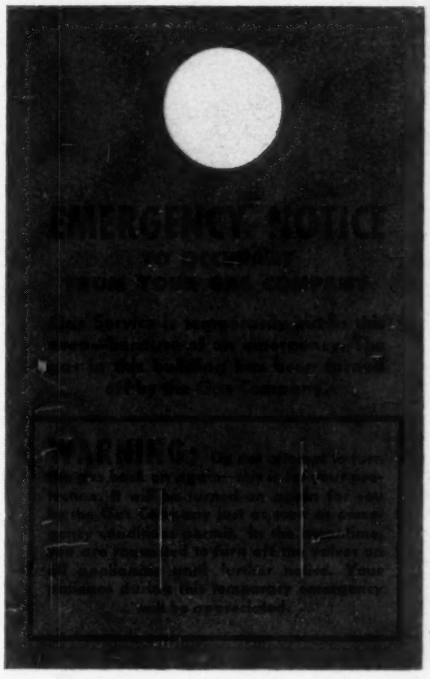
Reduction of gas pressures was proven a feasible method of reducing send-out during periods of gas shortage by a pioneering "low-pressure test" held in Fullerton, Calif., on Jan. 7, a report by H. W. Geyer, Southern Counties utilization engineer, disclosed.

Results of the test showed that only 6% of the consumers in the area affected experienced range trouble during the drop in pressure from 8 in. to 4 in. of water column, and only 1% experienced water heater difficulties. Pressure reduction will therefore be adopted as part of the company's wartime emergency program.

Preliminary experimental studies which had been made on various types of appliances had indicated that appliances adjusted to operate at 8 in. pressure could operate on 4 in. pressure without introducing hazardous conditions. The field tests were conducted according to these experimental findings.

The low-pressure test also provided the first real emergency in which the company's new radio communication system was brought into full operation. Radio sets were spotted at the three terminal low-pressure points in the system, and also at the three points of "send-out." The directors of the test were kept in instantaneous contact with these six vital points.

From the terminal points, operators kept the directors informed as to the drop in pressure; the directors in turn gave necessary directions to the distribution stations who regulated the pressure accordingly.



This emergency notice is hung on the consumer's door knob in districts where outages have occurred. The notice is supplemented with a leaflet giving specific instructions on how to turn on gas appliances. Each type of appliance is thoroughly covered.

"The radio transmitters proved invaluable during the test in maintaining instant communication and control," Mr. Geyer declared.

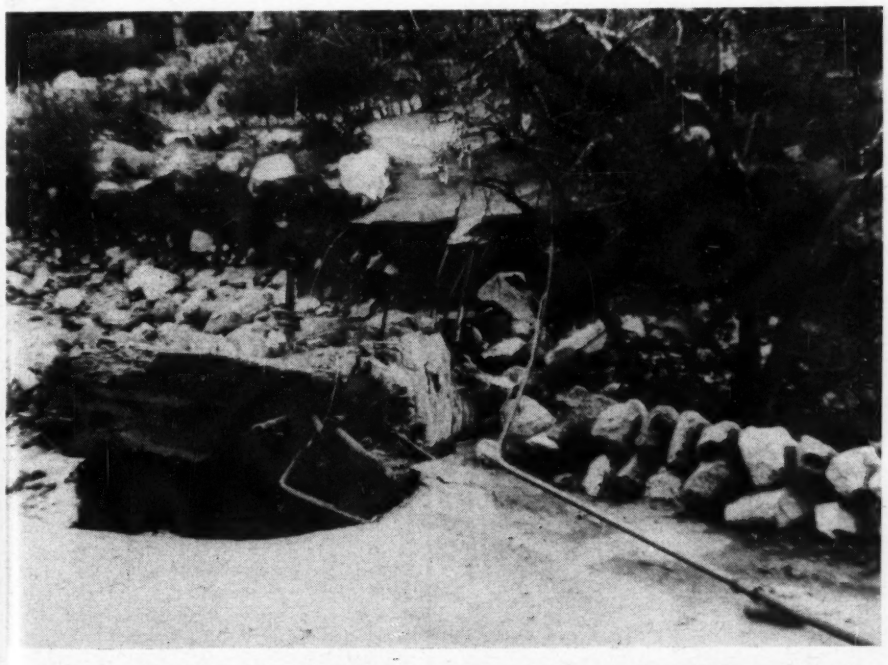
Mr. Geyer's report gives a graphic picture of the conduct of the test:

"All radio cars were assembled at the Fullerton office at 7 a. m. The program was reviewed briefly and the cars dispatched to their posts. By 7:30 a.m. all stations were in operation and standing by.

"Regulator crews were getting ready at their posts at 7:30 a. m.

"At 7:45 the district superintendent ordered the pressure reduced to 5 in. at the three regulator stations. Within a few seconds the pressure dropped to 5 in. at the control station and to about 4½ in. at the low-pressure points. After a few minutes, a further reduction of inlet pressure to 4½ in. was ordered, and the pressure at the low-pressure points reached 4 in. shortly before 8 a. m. It was permitted to drop further, so that during most of the test the pressure was 4.2 in. at the control center and between 3.6 and 3.8 in. at the low-pressure points.

"At 8 o'clock 35 field men under seven group leaders assembled at headquarters. Isolation area maps, addressograph tapes, survey forms, and instructions were issued and discussed. All men were equipped with emergency tool kits to facilitate relighting of appliances where necessary. The men were instructed to make a house-to-



Driving rainfall hit Southern California in mid-January. One result was this washed-out bridge in the Pasadena area. Note the exposed pipe lines. The line at right is a gas by-pass used to tie in an isolated area.

Another view of the damage done by the January storm in Southern California.

house canvass and request permission to inspect all appliances. They were also asked to inquire what difficulty, if any, in appliance or pilot operation had been noticed by the consumer, or if the consumer had relighted any pilots just prior to our visit.

"After completing his assigned route each man would report to his group leader and the addresses visited would be checked off the addressograph tape to insure that every house was visited.

"No service calls had been received by 8:30 a. m., so it was decided to continue the test for the full hour, restoring the inlet pressure to normal at 9 a. m.

"At 9 o'clock the men proceeded to their respective areas.

"By 10:30 a. m. the survey work had been completed, and the men started returning to headquarters."

The troubles in range and water heaters were all found during the house-to-house survey. None of the consumers called the company for service.

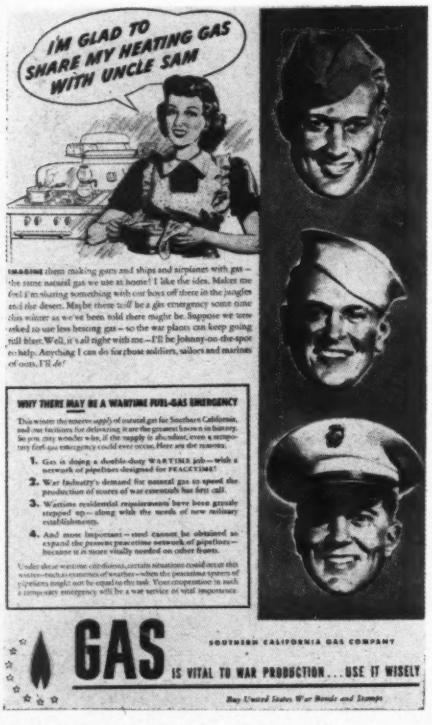
The test showed that reduction in the rate of send-out of almost 30% may be expected from lowering of pressure to one-half of normal, the report concludes.

Service Restoration

The problem of service restoration is a serious one, company officials state, and considerable thought and planning have been given to it. As a preliminary step, before the main valves can be opened and gas let into the area as a whole, all the meters have to be shut off. The two companies propose to accomplish this task by augmenting their regular corps of service men with a specially selected group recruited from other departments. These people have already been designated by their department heads and have received instructions in emergency turn-off and turn-on procedure.

The number of such employees the company will be able to place in the field under emergency conditions totals about 1200, according to Elting Henderson, general superintendent of the Southern California Gas Co.

In the event shut-off is anticipated, these special groups will be assembled in advance and will be ready to send in to the area as soon as the main valves are closed. It is hoped that the consumer himself will assist in the actual restoration of service. The emergency booklet which has been placed in the consumer's hands urges him to turn on the gas if he knows how. These instructions state that the usual procedure be followed, making sure to observe the following order: First, be sure that all appliances in the house are turned off; second, turn on the gas meter. Be sure it is the correct meter, if there are several meters, as at an apartment house; and third, turn on and light the appliances. Directions are given as to the method to be followed in lighting appliances.


I'M GLAD TO SHARE MY HEATING GAS WITH UNCLE SAM
WHY THERE MAY BE A WARTIME FUEL-GAS EMERGENCY
GAS
SOUTHERN CALIFORNIA GAS COMPANY
IS VITAL TO WAR PRODUCTION... USE IT WISELY
Buy United States War Bonds and Stamps

Sample of newspaper advertising used by Southern California Gas Co. to educate its consumers to conserve gas.

Heroic Efforts of P. G. & E. Men Save Pipeline

Thirty-six hours of heroic and extremely laborious effort by 15 men saved one of northern California's natural gas transmission pipelines from being washed away during the torrential rains of Jan. 22 and 23. The pipeline is a 6-in. main owned jointly by the Pacific Gas & Electric Co. and the Standard Oil Co. of California, supplying gas from the Vernalis field, 15 miles southeast of Tracy, San Joaquin county, to the communities of Newman, Stanislaus county, and Gustine, Los Banos and Dos Palos, Merced county.

This was the only serious threat to any unit of the far-flung natural gas system of the P. G. & E. and the lines owned jointly by it and the Standard company, because of the policy in the past several years of re-routing certain sections and otherwise eliminating hazards revealed by previous storms.

The battle of the 15 men against the flood occurred about five miles north of Newman, where the pipeline crosses Stimba creek. This creek is dry most of the year and the line was laid 2½ ft. under its bed. But the heavy rains turned it into a raging river 80 ft. wide and the rushing waters washed away the 2½ ft. of dirt on top of the main and 2 ft. underneath it, leaving it suspended in the torrent.

Some of the men toiled for a long period in the surging water, which was up to their arm pits and, so they wouldn't be swept away, each was tied around the waist with a rope held by a fellow worker on shore. These men fastened steel cables to the pipeline and the cables were connected to two large tractors, one on each bank. The tractors put just enough pressure on the cables to hold the pipeline firm against the flood. Meanwhile a permanent suspension cable was installed to keep the main in place.—*A. C. Joy, advertising manager, Pacific Gas & Electric Co.*

Radio Appeals Reduce Cold-Wave Send-Out

A REPORT FROM JAMES F. POLLARD
PRESIDENT, SEATTLE GAS CO., SEATTLE, WASH.

SEVERE winter storms are threatening utility services in many places. Also, they are providing opportunities to put into execution some of the plans for emergencies that have been carefully outlined in anticipation of possible bombing from enemy planes and acute shortages that might come with peak demands due to consumer requirements in cold spells, coupled with the urgency of supplying war industries with much-needed fuel.

A situation embodying some of these factors developed in Seattle, Wash., last month. A cold wave swooped down from Alaska and sent the thermometers on a downward march until they reached a low of less than 17° above zero. And the local gas company was put to the test of meeting unprecedented demands. That such an emergency was successfully met without undue inconvenience to consumers was in no small measure due to the resourcefulness of company employees and to the prompt use of the radio for conveying to users the urgency of conditions and securing their cooperation in a reduction of fuel use. (*GAS*, Jan., 1943, p. 27.)

But let James F. Pollard, president of the Seattle Gas Co., tell his own story as contained in a letter to *GAS* under date of Jan. 27:

Sendout Increased

"Our peak load in the winter of 1941 and 1942 was 12,800,000 cu. ft. per day, and we had great difficulty in carrying it. While we were unable, due to the critical metals situation, to increase our generating capacity since that time, we did make a number of changes in the auxiliary equipment in our plant and we have been able to send out in a 24-hour period as much as 15,000,000 cu. ft. of gas this winter.

"We have had very severe weather in Seattle, commencing on Saturday, Jan. 16, and continuing throughout the entire ensuing week.

"On Sunday, the 17th, we sent out a little over 14,000,000 cu. ft., and on Monday morning the sendout for the first four hours, between 7 a. m. and 11 a. m., was 40% higher than the sendout on the previous day during the same hours. It looked as though if this continued throughout the day we would be called upon for approximately 19,000,000 cu. ft., which was entirely beyond the capacity of the plant.

"We resorted to radio appeal to the public and got on the air with a special news broadcast at 1:30. This was transcribed and repeated at frequent intervals throughout the afternoon, with the result that by 9 p. m. the total sendout for the day was down to 11.3% above the corresponding sendout on the previous day; and we wound up with a total sendout for the 24 hours, 7 a. m. Monday to 7 a. m. Tuesday, of 14,291,000 cu. ft., which testifies to the effectiveness of the use of radio under such emergency conditions.

"Of course, the entire reduction in the load on Monday cannot be credited to the radio appeal because the temperature moderated materially from 22° above zero at 11 a. m. to 25° at 9 p. m., compared with 18° at 11 a. m. Sunday, and ranging between that and 21° and back to 18° by 9 p. m. Sunday. The mean temperature on Sunday was 17.76° above zero; and on Monday, 25.52° above zero. Nevertheless, I am satisfied that the radio appeal did have a material effect.

"There was no disruption of service in any part of our territory, no outages and no reconstruction activities were necessary. Our competitors suffered many sectional outages due to wires being down."

The first broadcast, followed up by similar stories in the newspapers, went out over Station KJR and the Victory network, and was in the form of a conversation between Studio Official Keplinger and President Pollard of the gas company. It follows:

Mr. Keplinger: Good afternoon, everyone. I have here in my hand a very important bulletin which I would like to read to you at this time, dated Washington, D. C., noon, Jan. 18. "The War Production Board declares that an emergency now exists in Seattle in regard to the supply of gas, due to the unprecedented use of gas, primarily by domestic users. During this critical period every person is required not to use their gas oven under any circumstances and to use the top of the range only for necessary cooking and water heating. Don't use hot water from automatic storage and water heaters. Heat what little water you need and must have on the top of the range. Cut thermostats back to 60° during the day; lower at night. Save gas for Seattle war industries." That is the end of the bulletin from Washington. However, we have called into the studios James F. Pollard, president of the Seattle Gas Co., to bring you some facts regarding this emergency. Mr. Pollard, how serious is this gas situation? What are the facts?

Mr. Pollard: It is the most serious that this city has ever faced. Yesterday and Saturday the city's gas consumption was 10% more than on any previous day in our history, even the high peak of last winter. We asked the people to cut down on their use of gas through the newspapers and radio and by personal telephone calls. Yet in spite of that request, during the first four hours of this morning the use was 33⅓% higher than it was yesterday, and up to 4 o'clock today it is still 10% higher than yesterday.

Mr. Keplinger: That makes an unprecedented use of gas in this district today, does it not?

Mr. Pollard: That is correct.

Mr. Keplinger: Is service to the war industries really involved in this serious situation?

Mr. Pollard: It certainly is. There are 48 war industry plants in the city that are using large quantities of gas in their production processes, including the largest.

Mr. Keplinger: Is that so? Now, here is a question, and I would like to have everyone of our listeners listen carefully while you answer. What can each Seattle citizen do to help?

Mr. Pollard: He can take the bulletin of the War Production Board which you have just read seriously and take it to himself right now. Unless the drag on this gas system is reduced immediately by everyone doing his part and doing it now, there may not be any gas for anybody very shortly. If everyone does his part and does it right now, there will be all the gas needed for absolutely necessary uses for everybody.

Mr. Keplinger: It isn't a question of what you would like to have people do—it's what they must do, is it not?

Mr. Pollard: That is correct.

Mr. Keplinger: Now, could you give us some of the most important steps for our listeners to take?

Mr. Pollard: I think they have been pretty well summarized by the War Production Board order, but I would like to review them again. Don't use the gas oven for any purpose—not for baking and certainly not for heating the house. Use the top burners only for necessary cooking and water heating. No. 2. Don't use tank heaters or automatic storage gas water heaters. That is, don't draw water from the hot water faucets. Heat what little water you must have on top of the stove. No. 3. Cut your heating thermostat back to 60° in the day and lower at night. No. 4. Save gas in every possible way. Avoid any use that isn't absolutely necessary.

Mr. Keplinger: Well, thank you, Mr. Pollard. I am sure that everyone of our citizens will cooperate in every way during this critical period. We would like to repeat just this much: That the War Production Board has declared that an emergency now exists in Seattle in regard to the supply of gas, due to the unprecedented use of gas, primarily by domestic users. During this critical period, every person is required not to use his gas oven under any circumstances, and to use the top of the range only for the necessary cooking and water heating.

Thank you very much, and thank you, Mr. Pollard. And now we return you to the station to which you are listening.

Propane-Air In Place Of Coal Gas

At Central New York Power Corp.'s Ogdensburg Plant

By T. C. MORAN

Assistant General Superintendent, Gas Department, Central New York Power Corp., Syracuse

UNTIL 1937, the gas business at Ogdensburg in St. Lawrence County of northern New York was operated solely by the local company. Since that time it has been included in the larger operating group of properties composing the Central New York Power Corp. On January 4, 1939, propane-air gas was substituted for coal gas.

The trend of the business in the five years preceding the change is typical of the recent history of many of the smaller isolated manufactured gas properties in that it had become progressively worse.

Since the introduction of the new gas supply, this trend has been definitely stopped, sales have been markedly increased, production expense reduced. Revenue lost due to a lower rate applied with the new gas has been largely recovered. The figures are shown in Table No. 1.

The first year's results on propane indicate that this trend has been stopped and the situation improved by the 4.2% increase in sales and an 18.5% reduction in production and distribution expense to offset a 7.9% decrease in revenue due to rate reduction.

Propane was selected for use rather than butane primarily because of the severity of winter temperatures in Ogdensburg. A temperature of 35° below zero has been experienced and 20° below is not uncommon. Its higher vapor pressures were desirable in eliminating the necessity for tank repressuring in the winter, and in reducing the necessity for artificial vaporizing to a few days in the year. All other times, the liquid storage tank receives its heat of vaporization from the atmosphere, reducing the fuel expense for vaporization to a negligible item.

The thermal value of the retort coal gas distributed in the past was 585 B.t.u. There were several reasons why our new supply is at 900 B.t.u. The first of these was appliance adjustment. A calculation made on the basis outlined in the A.G.A. publication *Mixed Gas Research*, together with the results of appliance tests, indicated that a propane-air mixture of slightly higher than 900 B.t.u. gave best performance.

In respect to holder capacity, the higher B.t.u. gas holds an advantage. This property had two low pressure wet holders, one 50 M and one 30 M. The 50 M was condemned because of deterioration due to extreme age. Had the 585 B.t.u. standard been retained, some part of this 50 M capacity would have had to be replaced. However, at 900 B.t.u. the therms storage of the 30 M holder was sufficiently greater than at 585 B.t.u. to permit a reasonable protection and added holder investment was made unnecessary. Fig. 1 shows the propane storage tank and the gas holder.

The same feature of the high B.t.u. gas became an advantage in the distribution system. Mains had become badly fouled with tar and naphthalene in the past, due to improper scrubbing and condensing. It would have required expenditure of considerable time and money to properly clean up the main system before changeover if it had been attempted to distribute 585 B.t.u. propane-air gas, whereas with a 900 B.t.u. mixture the thermal capacity, at the same pressure on the distribution system, became 50% greater than at 585 B.t.u. (considering change in specific gravity from 0.42 to 1.19).

Figs. 2A and 2B show the pressures at load center before and after the change to propane air gas.

Figs. 3 and 4 show some of the details of the mixing and pressure reducing apparatus. Mixing is direct into the mains for about 18 hours of the 24; after midnight the equipment is shut down, and the very small night sendout is from the holder. Fig. 4 shows general view of mixer room.

The fuel as received in tank cars carries the usual odorant which is satisfactory for straight propane operations, but it was felt that after mixing with nearly two parts air, added odorant is necessary. The rate is 4 gals. per million cu. ft., part of which is added with the fogging oil. Fogging is by atomizing type of fogger, injected at the station regulator outlet. Serious drying-out of joints and bleaching of meter leather has not yet developed.

Definite evidence of corrosion has been found on the interior of the holder. Specimens of metal cut from the lift a year apart indicated somewhat accelerated rusting. To alleviate

TABLE NO. 1. SUMMARY OF SALES, REVENUE, AND PRODUCTION COSTS (1938-1941)

	Coal Gas	*Propane*		
	1938	*1939*	*1940*	*1941*
Sales, Therms	119,800	124,400	136,677	148,444
Revenue	$ 44,469	$ 40,999	$ 41,881	$ 43,673
Production Cost per Therm	20.5¢	16.2¢	11.6¢	11.8¢

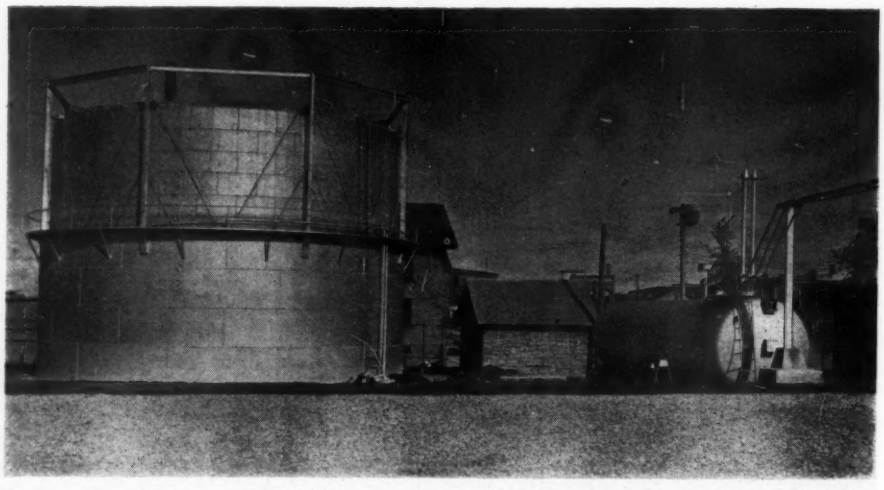


FIG. 1. Right: 20,000-gallon liquid propane storage tank. Left: 30,000-cu. ft. gas holder. Center: Regulator and oil fogger in building.

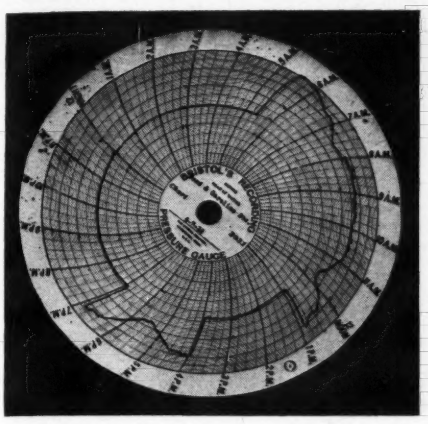


FIG. 2A. Pressure at load center before change to propane-air gas.

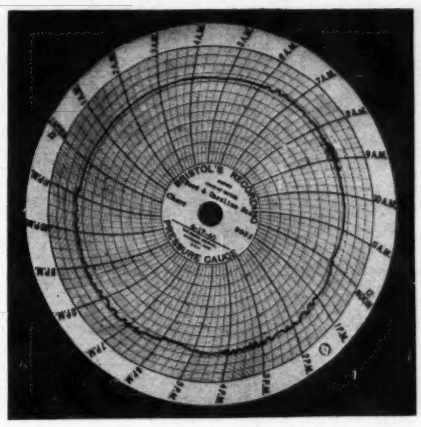


FIG. 2B. Pressure at load center after change to propane-air gas.

this condition, 600 gals. of a high boiling petroleum oil have been sprayed on the inside of the lift and allowed to fall back onto the surface of the water under the lift, leaving about a $\frac{5}{8}$-in. thick film of oil on the water. This is to be repeated as needed to make up evaporation of the oil, which is at a very slow rate.

Fig. 5 shows the unaccounted-for gas has decreased from 200 M c.f. to 155 M c.f. during the first year, on the basis of M c.f. per mile of 3-in. equivalent main per year, by months. The marked decrease is attributed to two causes: First, the distribution of gas of 1.19 specific gravity in substitution for a gas of .42 specific gravity. At the same pressure, the flow of gas through an opening is inversely as the square root of the specific gravity. Secondly, intensified efforts were made to locate and repair leaks which had existed for some time.

Meters, which are opened in routine maintenance have the diaphragms re-oiled with a special disinfectant treated oil. This is to forestall the development of organic growth on meter leathers reported to have been experienced elsewhere. To date no such growth has appeared.

Appliance work was grouped in four stages:

1. A survey of all appliances in use.
2. Drilling out of all burner ports smaller than No. 34.
3. Adjustment of appliances with new gas.
4. Follow-up and clean-up of carry-overs.

The appliance survey proved of value in determining the extent of port drilling necessary, the nature and quantity of parts, fittings, orifices, adaptors to be kept on hand. The survey revealed that the equipment in use was in general very old, and in poor condition. Modern appliances, automatic water heaters and refrigerators were almost totally absent. Practically all ports were drilled to No. 34; in many cases, particularly oven burners, additional cross-over or ignition ports of smaller drill size were added. This drilling operation was about completed before the new gas was turned in.

Adjustment of the appliance on the new gas consisted of minor spud and air adjustments. Air adjustments were also easily made. Special velocity reducing spuds were unnecessary.

Rutz top burner lighters were replaced entirely. Some dental and special torches were also replaced completely. Oil burner pilots were given especially prompt attention, as were all commercial and industrial installations.

The final stage consisted in handling a certain number of call-backs, and drilling in additional ports in some particularly stubborn oven burners. After six months, this type of work had been cleaned up and service requests were back to normal.

It should be noted that these liquefied petroleum gas-air mixtures are definitely less flexible in appliance adjustments than the coal or water gas which they replace. They require finer adjustments in general, the permissible adjustment tolerance is less, but when properly adjusted they give good performance.

Since the initial equipment installation there have been installed three production units of the inspirating type. These utilize the pressure energy in the propane vapor to inspirate the

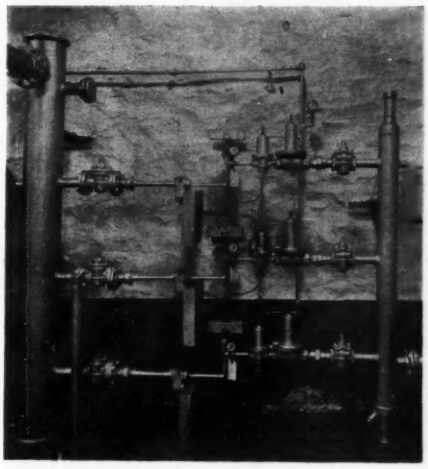


FIG. 3. Inspirator type mixing units. Right to left: Propane vapor inlet header, vapor pressure regulators, on-off controls; air intake filters, inspirator tube, mixed gas outlet header.

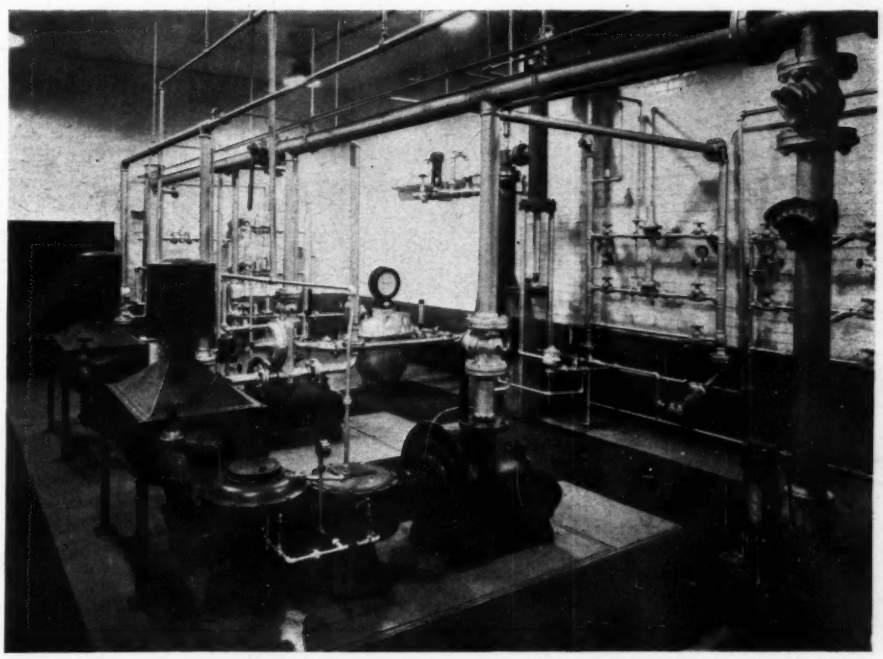


FIG. 4. General view of mixer room showing motor-driven mixers in foreground, inspirator mixers on rear wall, vapor regulators and vaporizers on right wall.

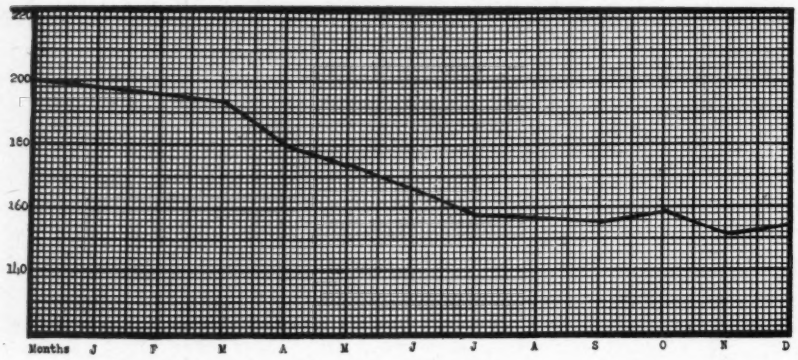


FIG. 5. The unaccounted-for in M c. f. per year per mile of 3-in. equivalent main, showing the reduction with use of propane over manufactured gas month by month for the year 1939.

air in the mixture, and discharge the finished gas at sendout pressure. This equipment requires no motors, compressors or electric device of any kind; is low in price and installation and operation cost.

Propane bottling facilities have also been installed to serve the requirements of this company only for such fuel. Cylinders of the portable 5-lb. and 20-lb. size are filled at the Ogdensburg Station from our gas making bulk facilities there. Weigh scales, manifold piping and hose were installed. These cylinders are in general use throughout the various properties of the Central New York Power Corporation.

Substitutes for Metals in Heating Ducts

RESTRICTIONS against the use of metal,* particularly galvanized and tinned sheets, make necessary the use of substitutes. Unfortunately, no other readily available material has the same characteristics from the viewpoint of the sheet-metal worker. A number of fire tests with proposed substitutes have been recently conducted at the Bureau.

A substitute that can be worked with the same tools and technique would find more ready acceptance by the trade, because any changes required in the procedure of fabrication and erection will usually work a hardship by slowing up the job. For these reasons the thin, pliable sheets have found favor, although some of the rigid boards may have superior structural strength and durability. Since fire safety requirements are lower for returns than for the hot-air ducts, different materials for the two kinds of ducts are used in many installations.

Among the pliable boards offered are several composed of a felt base with high melting point asphalt saturant and coating. Others are of similar composition for the core with facings of asbestos paper. These are combustible. Other pliable boards have paper boxboard or pressboard cores with asbestos paper facings. Some of these are rated "combustible" or "slow burning," and others "fire retardant," as tested according to the procedure outlined in in Federal Specification SS-A-118 for prefabricated acoustical units, to which reference is made for testing methods and classification requirements. The incorporation of butuminous materials to lower absorption will usually increase flammability. Fire retardant treatment of pressboard or boxboard cores makes for increased safety from flame spread.

Cement-asbestos boards have many characteristics that make them suitable for duct walls, although they are not readily worked into turns, branches, and other complicated fittings. In one system of fabrication, the edges of the board are mitered and cemented together with an adhesive, after which paper tape is applied to bind the corners on the outside. Another system employs grooved strips of flameproofed wood for corner members and a third employs metal corner strips. All of these require some metal for fittings and unusual conditions.

A substitute for galvanized metal suitable for ducts or duct fittings recently placed on the market consists of pickled iron sheets coated with a high melting point compound of fatty acid pitch containing a high percentage of inert mineral filler.

This coating is covered with mica dust, which gives the sheet a gray color and a greasy feel. The technique and tools for working this material are the same as for galvanized metal except that preparation for soldering requires the removal of the coating from the areas to be joined. It is probable that this material will be acceptable to sheet metal workers for use in lieu of the galvanized steel usually employed. The tests have indicated that only materials classed as "incombustible" or "fire retardant" should be used for hot air supply ducts, with those of the latter classification at not less than 6 ft. from the heating plant if liquid or solid fuels are employed. Material for return ducts may be of lower classification with respect to fire safety, but combustible materials should not be used within 3 ft. of the heating plants.

*From Technical News Bulletin of National Bureau of Standards, December, 1942.

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Supreme Court Affirms Natural Gas Decision

The United States Supreme Court on Jan. 11 affirmed a decision by a three-judge federal district court which held that after the passage of the Natural Gas Act, the Federal Power Commission acquired exclusive jurisdiction over interstate sales of natural gas for resale.

The case involved a contract under which the appellee sold gas produced in West Virginia to the Portsmouth Gas Co. for distribution in Ohio. The Ohio commission directed United to submit testimony and exhibits to show a reasonable and just rate to be charged by it for furnishing natural gas to Portsmouth. The district court held that although prior to enactment of the federal statute it was permissible for the state to regulate local features of interstate commerce in gas, after passage of the Natural Gas Act such regulation was vested exclusively with the FPC.

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Utilities Invest Five Billion In Insurance Companies

According to end-of-the-year reports for 49 "legal reserve" life insurance companies in the United States (91.5% of the entire field), public utilities investments in such companies totaled $5,103,000,000 on Dec. 31, 1942.

A breakdown of the investments is given in the accompanying table:

Classification	*Total*	*% of Total Assets*
Preferred stocks	$ 144,000,000	0.5
Common stocks	26,000,000	0.1
Bonds	4,935,000,000	15.5
Total P. U. bonds and stocks	$5,103,000,000	16.1

■ ■

FPC Will Not Postpone Future Hearings

The Federal Power Commission announced recently that it will not postpone hearings in the future except on a clear showing of absolute necessity or emergency. The commission has instructed its staff to allow sufficient time for all participants in a proceeding to prepare their cases before the matter goes to hearings, and to consider the status of all other hearings scheduled or reasonably anticipated before recommending a new hearing.

Reconditioning Steel Mains in Detroit

By R. B. ALLEN

Assistant to Superintendent, Street Department, Michigan Consolidated Gas Co.*

THIS company has, for some years, been giving careful consideration to the problem of maintenance of uncoated steel pipe. The making of repairs as leaks occur by clamping or by renewing sections of main is unsatisfactory for the reason that it is costly and the remedy is not applied until some damage has been done and gas has been lost. Ordinarily, the desirable thing to do is to prevent the corrosion if this can be done in a satisfactory manner at a reasonable cost.

In Detroit, we have now developed a method for coating steel mains in place which we believe is a step forward in the direction of a fair solution for the prevention of corrosion on them.

Originally we had maintained the system by making spot repairs, but as the rate of failure advanced this practice was discontinued in favor of a program of replacement with coated and wrapped pipe. Such a program would have become burdensome unless the individual replacements were extended beyond that which was necessitated by the existing failures. In pursuing this policy, we found that much of the pipe was in relatively good condition, and we therefore developed a recondition- rather than a replacement program, particularly where 4-in. and larger pipe was concerned.

The presence of other underground structures, improved lawns, and occasionally restricted excavating conditions advised that the trench be kept to a minimum width, and it was therefore necessary to make use of pipe cleaning and coating equipment and methods which would operate within the allowable limits.

The solution to the problem of excavating was simple. There is on the market a stripper bucket which in cross-section is reversed from the conventional excavating bucket and which is designed to fit a small wheel-type trenching machine and will excavate a trench 22 in. wide. The reverse design of the bucket permits of cleanly excavating over the top of the main and the rooters on the side of the buckets loosen and partially remove the dirt from the side of the main.

With the exact location of the main and connecting mains and services determined and with the digging wheel directly over the pipe, the trencher excavated at a speed comparable to that of ordinary digging operations. The loose dirt was removed by hand so that when the excavating operation was completed, the main was in a position to be readily raised from the trench bottom. Paved street intersections were crossed by a combination of open cut and tunnel, depending upon the conditions encountered. The use of stripper buckets resulted in excavating costs which were not appreciably higher than if the trench were being dug for a new main installation. This trenching machine is shown in Fig. 1.

The cleaning operation was and still is a major problem. We had found that the soil condition in at least a portion of the area formed a scale which was particularly difficult to remove. We became interested in the possibilities of flame cleaning and experiments made with an oxyacetylene flame resulted in a pipe surface which was not only free of scale, but was perfectly dry and in excellent condition for coating. However, burner heads of a proper design for rapid large scale flame cleaning were not available. Furthermore, the cost of acetylene and oxygen for this purpose was objectionable.

We decided to experiment with a burner head, using natural gas and air for fuel, and it was with this kind of equipment that our 1941 program was executed (see Fig. 2). The flame cleaner burner head for 8-in. pipe consisted of four circular manifolds made from 1-in. steel pipe. The manifolds were connected to each other in parallel and were split and hinged for placing it on the pipe and for ready removal when passing over service and main connections. From each manifold projected, seven Selas superheat slot burners arranged so that the flame was directed toward the pipe. When in position the flame cleaner completely encircled and rode on the main.

Fuel for the flame cleaner consisted of a pre-mixed atmosphere of natural gas and air. The natural gas was obtained from the main being reconditioned and air was supplied by a small gasoline-driven blower mounted on a two-wheel trailer. A flame temperature approximating 3000° F. was sustained with an input of 700 cu. ft. of gas per hour. The action of the flame cleaner resulted in rapid expansion of the scale so that its adhesion to the pipe was broken. In some cases scale literally "popped" off the pipe surface and in all cases it was loosened to the extent that it could be readily removed by

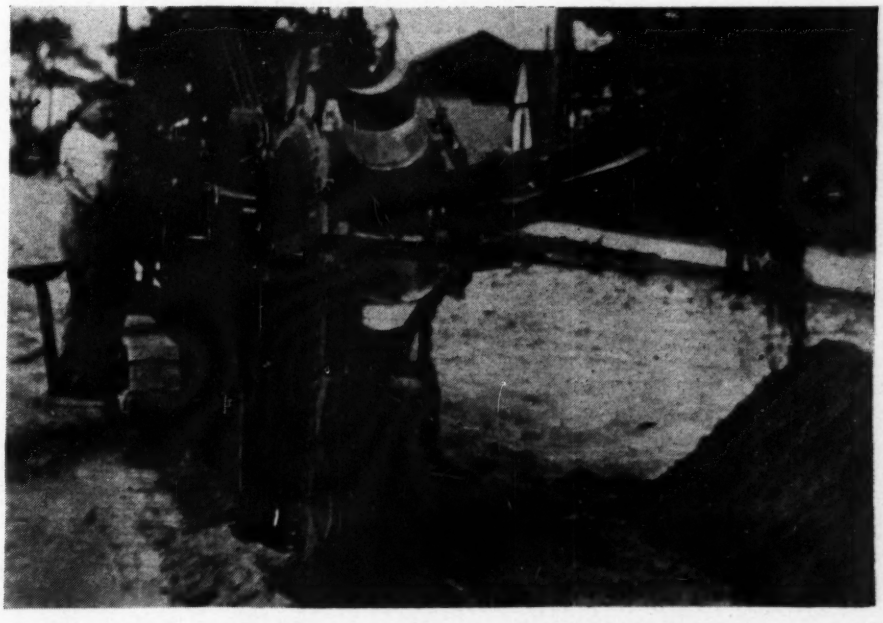


FIG. 1. Trenching machine with reverse buckets in operation.

*Excerpt from a paper presented before the American Gas Association Technical Section Distribution Conference, held in New Orleans, La., May 4-5, 1942.

FIG. 2. Gas and air burning flame cleaner.

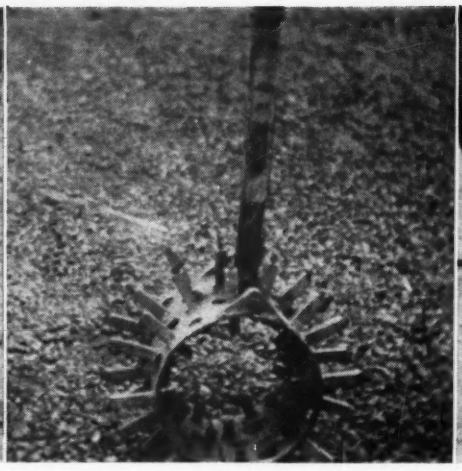


FIG. 3. Close-up of mechanical scraper.

FIG. 4. Applying hot coating.

mechanical scrapers. In order to obtain this effect, the flame temperature must be sufficiently high to expand the scale rapidly, leaving the pipe at a relatively low temperature.

The natural gas and air burning flame cleaner, having a low flame temperature, was not as effective in removing scale as was the oxyacetylene burning flame cleaner. It was therefore necessary to follow the flame cleaner with a multi-bladed mechanical scraping device which encircled and was manually moved along the pipe with a reciprocating motion. This scraper is shown in Fig. 3. The operation of the scraper effectively removed any scale left by the flame cleaner.

The average rate of pipe cleaning was approximately 60 ft. per hr. Following the operation of the pipe cleaner, the pipe was wire-brushed by hand to remove dust and at the same time inspected for pits and any possible remaining scale. The moisture-free surface of the pipe as left by the flame cleaner presented an ideal condition for coating.

After the pipe was cleaned, all pits having a depth of approximately two-thirds or more of the pipe wall thickness were arc-welded. Any leaks found were repaired by welding on patches or tapered plugs. Clamps or saddles covering previous leaks were removed and the leaks repaired in a like manner. All services and laterals tied into the main with saddles were reconnected with welding tees. We found the total cost of repairing leaks and filling large pits to average approximately $0.01 per ft., a small item when compared with the total cost of reconditioning.

Due to the limitation presented by the width of the trench, we did not consider machines in the application of pipe coating. The first coating application consisted of a rust-inhibiting primer which was mopped onto the pipe, usually still warm from the flame cleaning operation. This was followed by a cold application of coating material which was hand applied and rubbed well into the surface of the pipe, leaving a layer of approxmiately $\frac{1}{16}$ in. of material on the pipe. This was then covered with a 5-in. width wrapper spirally applied and then a final coating of material applied at a temperature of 400° F. flooded and ragged over the wrapper. Fig. 4 shows the application of this hot coating. This final application cooled to a plastic consistency and served as a seal coat and protection to the previous applications. This material was heated in a melting tank, using natural gas as a fuel and with the heat thermostatically controlled.

Small Utilities Lead in Safety Contest

ONLY the small utility companies competing in the National Safety Council's Public Utilities Section safety contest were able to effect an average improvement in their accident frequency rates during the 1941-42 competition, the council reported in December.

Middle sized companies had the largest increases in rates.

The average accident frequency rate (reportable injuries per 1,000,000 man hours) for all contestants was 10.50.

Combination gas and electric companies had the lowest rates, averaging 8.73; straight gas companies had the highest rates, averaging 12.59.

Frequency rates for all contestants averaged 9% higher than in the 1940-41 competition.

Eleven companies went through the contest period of one year without a single reportable injury, compared with 10 companies in the 1940-41 contest.

Winners in the three contest classifications and their frequency rates for the 1941-42 period are:

Combination Gas and Electric Division

(Large companies—average rate, 7.70)

1. Metropolitan Edison Co., Reading, Pa., 1.67.
2. Virginia Electric & Power Co., Richmond, Va., 2.48.
3. Georgia Power Co., Atlanta, 3.05.

(Middle sized companies—average rate, 13.48)

1. Pennsylvania Edison Co., Altoona, Pa., 1.84.
2. Central Illinois Light Co., Peoria, Ill., 2.23.
3. Eastern Shore Public Service Co., Salisbury, Md., 7.53.

(Small companies—average rate, 9.77)

Three companies tied with perfect, no-accident records, listed in order of the number of man hours worked by each during the contest period. The first named worked the largest total: Suburban Gas & Electric Co., Revere, Mass.; Leominster Electric Light & Power Co., Leominster, Mass.; Wachusett Electric Co., Clinton, Mass.

Gas Divisions

(Large companies—average rate, 11.83)

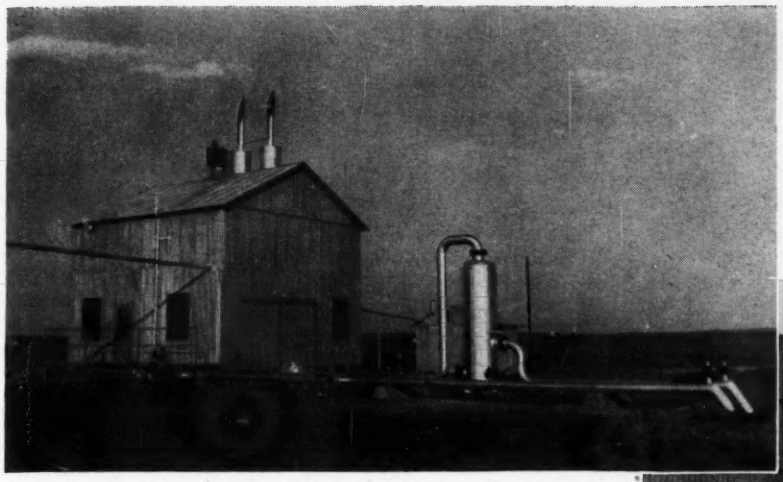
1. The Peoples Natural Gas Co., Pittsburgh, Pa., 2.10.
2. Columbia Gas & Electric Corp., Columbus Group, Columbus, Ohio, 2.37.
3. Hope Natural Gas Co., Clarksburg, W. Va., 3.91.

(Middle sized companies—average rate, 15.99)

1. The Dallas Gas Co., Dallas, Texas, 3.24.
2. Pittsburgh & West Virginia Gas Co., Pittsburgh, Pa., 7.38.
3. The St. Louis County Gas Co., St. Louis, Mo., 10.26.

(Small companies—average rate, 17.77)

1. Canadian River Gas Co., Amarillo, Texas, 0.0.
2. Lone Star Gas Co., Fort Worth, Texas, 6.49.
3. Brocton Gas Light Co., Brocton, Mass., 10.49.

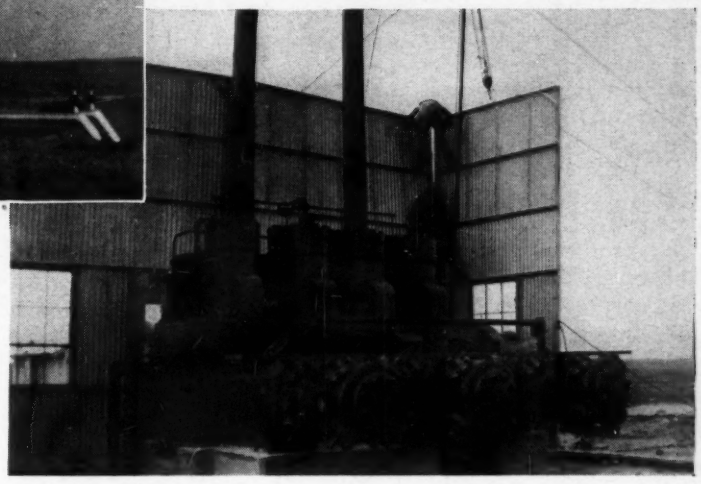


By J. E. COZZENS

Eastern Gas Co., Dallas, Texas

Transmission Superintendent, Carlsbad District, New Mexico

AT LEFT: New Mexico Eastern Gas Co.'s Roswell compressor station, showing building and piping. BELOW: Prefabricated building erected over Clark engines.



New Mexico Eastern Gas Company's

Roswell Compressor Plant

AS LONG ago as last January the engineering department foresaw the need of a compressor station on the 8-in. Roswell main line which, prior to the acquisition of new loads, had been quite adequate to supply the demands of Roswell, Hagerman, Dexter, Lake Arthur, and the large gas-engine load in the pumping district. Considerable technical knowledge, backed by years of practical experience, went into the planning of the new compressor, with the result that the construction men were furnished with complete plans, as well as material lists, for the building of a modern, up-to-the-minute compressor. Anticipating the difficulties of securing materials of the quality needed, the purchasing department last January began assembling the many types of material required to go into this main line project.

In March, the Clark 400-hp. Super Two-Cycle Right Angle Compressor arrived at Artesia, which was the nearest railroad station. Arrival of other large units needed to begin actual construction followed.

The writer arrived in this district on March 27, and shortly thereafter A. J. Green, compressor expert of Southern Union, put in his appearance.

Under the direction of Mr. Green, construction began early in April, when a crew of men began chipping out the rocky hill for the concrete foundation blocks, which required some 380 sacks of cement. Within 10 days the foundation blocks were run, and the 46,000-lb. compressor was hauled over rough roads and rolled onto the blocks. The work of connecting the compressor to the various other units began, with electrically welded construction being used throughout.

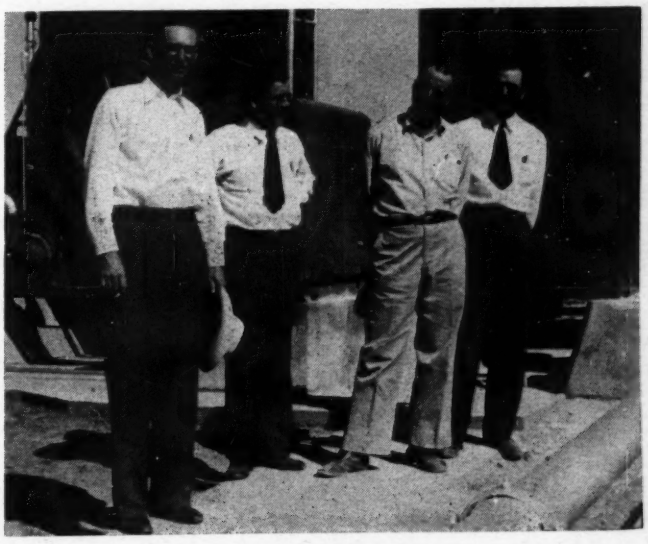
The location of the compressor station is several miles from any source of water supply, and the problem of a cooling system was met by the installation of the latest type of closed-system, air-cooled radiators for cooling both the engine and the 8,000,000 cu. ft. of compressed gas per day.

Power for driving the huge fans on the Young-Happy cooling units is provided by a V-8 Ford gas motor. A completely automatic lighting system is provided by a Kohler gas-engine-driven plant. Heating of the compressor station is handled by a Bryant automatically controlled boiler connected to 1100 ft. of 2-in. pipe coils welded in place in the all-steel building.

A telephone system, complete with a pressure alarm system, is provided, and enables the operators to contact other employees of the district, as needed, to maintain necessary line operating pressure.

The compressor housing is an all-steel, fireproof 24x24x17 ft. corrugated building, placed on concrete foundation and having a revolving type ball bearing ventilator. Housing for the compressor operators consists of two neat cottages, equipped with modern conveniences, located near the station.

A cyclone fence 150 ft. square, with steel posts set in concrete, encloses the entire station and all appurtenances.



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Van Thompson, H. N. Oldham, Art Green and J. E. Cozzens, builders of the compressor station.

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CONSERVATION OF NATURAL GAS

THE Interstate Oil Compact Quarterly Bulletin issued recently to cover the autumn quarterly meeting of the committee held in Chicago features conservation and utilization of natural gas as the theme of the October meeting. (*GAS*, Nov., 1942, p. 42.)

Natural gas reserves, expanding pipeline facilities for industrial and domestic use, liquefied petroleum gas and the use of natural gas for synthetic war products were some of the subjects discussed by nationally known authorities. Excerpts from three of the papers presented at the gathering are published herein.

Since the last quarterly meeting, according to the Bulletin, the Commission's hard working standing committees have made a study of the best methods and practices for the conservation of natural gas.

The Regulatory Practices Committee recommended that gas statutes in the producing states should be separate and distinct from oil conservation statutes, but similar in each state to the extent that they accomplish the same purpose, modified only to meet local state conditions.

The Legal Committee recommended that there should be separate and distinct oil and gas statutes for the conservation of oil and for the conservation of gas and that each state should have a ratable taking law.

The Research and Coordinating Committee recommended that the Regulatory Bodies of the states should make intensive studies of the reserves, production and utilization of gas in each reservoir. In those fields without facilities for gas utilization regulatory bodies should study the feasibility of (a) return of gas to producing formations for pressure maintenance, (b) erection of natural gasoline and chemical plants for the conversion of gasoline, liquefied petroleum gases and chemical raw materials for synthetic products, (c) increasing use of natural gas for domestic and industrial purposes, and (d) in fields where gas cannot be utilized, consideration should be given to sealing off the gas until it can be used.

The Commission from its previous studies adopted formal findings regarding pressure mantenance and secondary recovery, recommending that such operations should be encouraged by the enactment, revision and amendment of laws where necessary to promote such operations.

Ralph E. Davis, Pittsburgh, Pa., consulting engineer and recognized authority on gas reserves, surveyed present and potential natural gas reserves for the Compact gathering. He estimated United States reserves at 85 trillion cu. ft., and said that the use of natural gas has increased threefold in the last 20 years and will probably continue to increase. (*GAS*, Nov., 1942, p. 22.)

Dr. Frank H. Dotterweich, professor of natural gas engineering of the Texas College of Arts and Industries and consultant to the OPC natural gas and natural gasoline division, in addressing the meeting discussed the Wulff and Schoch processes for the production of acetylene from natural gas and petroleum. He described the various types of carbon black with particular emphasis on the types necessary for the manufacture of synthetic rubber tires. He also discussed various chemical products made from natural gas.

Speakers at the Oct. 3 session included G. L. Brennan, manager of the liquefied petroleum gas division of the Warren Petroleum Co., Tulsa, Okla., and Dr. Gustav Egloff of Chicago, director of research, Universal Oil Products Co.

"Developments in the liquefied petroleum gas industry," was Mr. Brennan's subject. He emphasized its growth and importance, stating that 2,000,000 gal. of liquefied petroleum gas equaled 200 million cu. ft. of natural gas or 400 million cu. ft. of manufactured gas. He said that industry sales had grown from 76,855,000 gal. in 1935 to 462,852,000 gal. in 1941, and that now the industry furnishes to over 2 million American families a high quality, low cost gaseous fuel for cooking, heating and refrigeration. (See *Butane-Propane News*, Dec., 1942, p. 20.)

Dr. Egloff discussed the use of natural gas for synthetic war products in continental Europe as well as in the United States. He described methods used to make aviation gasoline, lubricants, synthetic rubber, explosives, acetylene, anaesthetics, plastics and many other products.

He explained generally the chemical products of natural gas and petroleum and exhibited synthetic products made from them. He described the production of explosives as well as the ripening of fruit by natural gas products. (*GAS*, Dec., 1942, p. 24.)

In addition to Dr. Egloff's display there were many interesting and educational exhibits arranged in the convention room.

The Illinois Geological Survey displayed comprehensive charts and graphs showing pertinent facts and trends in the oil and gas industry in Illinois. Included in this exhibit was a sample of new fibre pipe developed by a member of its staff, Frederick Squires. This pipe, which contains no iron or steel, has been experimentally used in a shallow well.

The Arkansas Oil and Gas Commission exhibited a 50-lb. cake of sulphur processed from sour gas by a sulphur pilot plant in the Magnolia Field of Arkansas.

Various products made from natural gas, natural gasoline, and petroleum were exhibited through the courtesy of the Cities Service Oil Co., the Commercial Solvents Corp., and Dr. Sidney Born of the University of Tulsa, who loaned products made by the Shell Oil Co., Shell Development Co., Carbide and Carbon Chemicals Corp., Standard Alcohol Co., and the Standard Oil Co. of Louisiana. These exhibits included solvents, formaldehyde, and many derivates. These products are used in the manufacture of plastics, dyes, leather, rubber, medicine, chemicals, cosmetics, insecticides, explosives, cleaner polishes and electrolytic condensers for radios.

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EXCERPT from a paper, "Future Expansion of Pipeline Transportation and Distribution of Natural Gas," by N. C. McGowen, president, United Gas Pipe Line Co., Shreveport, La., presented at the Interstate Oil Compact Commission meeting, Oct. 1-3, 1942.

In 1928 there were approximately 57,000 miles of natural gas transmission lines which were located in four areas in the United States, the Eastern and Mid-Western area, including Indiana, Illinois, Michigan, Ohio, Western New York, Western Pennsylvania, Maryland, West Virginia and Kentucky; the Rocky Mountain area, including Colorado, Wyoming, Utah, South Dakota, North Dakota and parts of Montana; the Pacific Coast area in California; and the Mid-Continent and Southwestern States of New Mexico,

ON THESE PAGES, GAS presents excerpts from the Quarterly Bulletin published in Oct., 1942, by the Interstate Oil Compact Commission, Oklahoma City. Principal topic of discussion at the commission's fall meeting held in Chicago (GAS, Nov., 1942, p. 42) was the conservation and utilization of natural gas.

Texas, Louisiana, Arkansas, Mississippi, Tennessee, Oklahoma, Kansas and Missouri.

By 1941, this 57,000 miles of natural gas transmission lines had increased to approximately 90,000 miles, and the additional states of Alabama, Georgia, Florida, Iowa, Minnesota, Eastern Pennsylvania, Virginia, Nebraska, Washington, Arizona and the District of Columbia were added, and in addition pipe line facilities were expanded and pushed farther in the states that were being served with natural gas at the beginning of 1928.

During this period, the number of communities that were being served with natural gas increased 200%. While many large cities were converted from manufactured to natural gas, the majority of the communities were those of less than 100,000 population, and in addition fuel gas was made available to many industries located within the urban centers and also to industries close by the smaller communities and in the intervening areas.

The total marketed natural gas production for the United States increased from 1½ trillion ft., in 1928 to approximately 2½ trillion ft. by the end of 1939, and estimates for 1941 indicate a total consumption of approximately 3 trillion ft.

The fact that we have 80 trillion ft. of reserves does not necessarily mean that all these reserves are available for delivery in the pipe line. Drilling must be carried on in order to develop delivery capacity to meet the demands. While we generally think that the drilling of a gas well and the production of gas wells are similar to that of drilling for and the production of oil, there is a distinct difference. With the production of oil, an allowable may be given by the various states for the production of various fields, and that production is set by demand and storage. The physical characteristics of oil are such that it may be stored and production maintained evenly over periods, always keeping normal stocks of crudes in storage to meet the fluctuating market demands calling of fluctuating still runs, and then before those stocks are depleted or before they increase too much, the allowables can be reset to hold the production, taking into consideration stocks, in line with demands. Therefore, the shock of their peaks can be met with storage and does not have to be met with direct well production the moment the increased demand occurs.

The physical characteristics of gas are such that it cannot be economically stored above ground in a volume sufficient to meet the impact of demands and such underground storage available in selected depleted reservoirs is so small compared to the volumes of gas used throughout the country that it is only of local benefit, so the pipe line companies, in figuring their demands, must require producers of gas to carry on a continuous drilling program to meet their normal demands and also to maintain sufficient delivery capacity to meet from the well to the consumer the instantaneous impact of peak demands brought on by increased industrial loads and severe drop in temperature.

A dispatcher on an oil line dispatches from storage to storage. A dispatcher on a gas line dispatches from well to consumer.

The extension of pipe line facilities as well as additional reserves cannot and should not move along as "business as usual," but our expansion must be weighed at the present time as to that which is absolutely necessary and essential to the war effort. It is apparent that the transmission facilities should be expanded. The industry itself is working on many extensions and enlargements whereby facilities are being reclaimed in portions of systems where they can be spared and installed to augment supplies where there is greatest need, and in some cases new materials are being furnished to complete these expansions. Needless to say, the natural gas industry of the United States is in an all-out war effort and is doing everything it can to take full advantage of available materials whether in the storehouse or in the ground so that their demands for new critical materials will be held to the minimum.

State Representatives at Fall Compact Meeting

When the fall quarterly meeting of the Interstate Oil Compact Commission was held in Chicago, Oct. 1-3, some 16 states which currently produce 96.6% of the nation's oil were officially represented as follows:

Member States

Arkansas	O. C. Bailey
Colorado	Warwick M. Downing
Illinois	Clarence T. Smith
Kansas	Jeff A. Robertson
Kentucky	N. W. Shiarella
Louisiana	B. A. Hardey
Michigan	P. J. Hoffmaster
New Mexico	Hiram M. Dow
New York	Harold C. Ostertag
Oklahoma	Chas. C. Peppers
Pennsylvania	Parker L. Melvin
Texas	J. C. Hunter

Official Observers

California	Reed D. Bush
Indiana	George V. Cohee
Nebraska	Allen G. Burke
Wyoming	Warren D. Skelton

EXCERPT from a paper, "Conservation of Natural Gas in Arkansas," delivered by Alec M. Crowell, director of production, Arkansas Oil and Gas Commission, El Dorado, Ark., before the Interstate Oil Compact Commission meeting, Oct. 1-3, 1942.

Conservation of natural gas is a statutory duty of the Arkansas Oil & Gas Commission. The wastage of natural gas from any gas well by escape to the open air is definitely prohibited and the wastage of any gas from an oil well prior to its efficient use in the production of oil is controlled by gas-oil ratio regulation. There is no wastage of natural gas in the State of Arkansas where such natural gas can be commercially utilized. This policy of the state has resulted in first, efficiently operated oil pools, and secondly, the bringing into the state of gas consuming industries who were attracted by the assurance of a long time gas supply protected by adequate law.

Natural gas was discovered some 50 years ago, 1888, in the western portion of the state, near Fort Smith in Sebastian County. This initial discovery was not commercially profitable; however, early in the year 1901 a deposit of commercial value was opened to production near the town of Mansfield, also in Sebastian County.

During subsequent development and exploration, 25 separate and distinct reservoirs have been discovered, from which some 100 billion cu. ft. of gas has been produced and in which our engineers estimate there still remains some 100 billion cu. ft. recoverable. All of the gas produced is utilized for light, heat or fuel and is sweet gas in its natural state. There is no oil or distillate associated with these gas deposits of Western Arkansas.

There has never been any serious attempt toward the setting of production quotas for these dry gas fields, nor has there been any litigation relative to the waste of gas. After proper investigation by its engineering staff, the Arkansas Oil and Gas Commission decided that the production policies now employed in these gas fields are satisfactory—and that waste as defined by statute does not exist there.

Casinghead or wet gas was first discovered in 1919 in what is now known as the Stephens Oil Field of Ouachita County, but volume production began in earnest with the discovery of the El Dorado Field in 1921 and the great Smackover Field in 1922. The peak of production was reached in 1925 when the production exceeded one billion cu. ft. in one day, associated with 500,000 bbl. of oil.

By 1937 the oil and gas industry of the State of Arkansas had, for a period

of some 12 years, experienced a progressive decline in production, notwithstanding the fact that considerable shallow (under 4000 ft.) exploratory drilling during this interval was carried on in the southern part of the state. Before the end of 1937 the efforts of deeper exploration resulted in the discovery of the Schuler Pool in Union County at a depth of 7600 ft. Following this discovery the trend of oil and gas production has been consistently upward, largely due to an expanding program of exploratory drilling which has been spreading to the westward from Schuler Pool. This continued search for additional petroleum deposits has been rewarded with the discovery of both oil and gas pools at horizons of from 6000 ft. to 10,000 ft. in depth. These discoveries have disclosed natural gas reserves of sufficient magnitude to cast an entirely new aspect on the industrial potentialities of the natural resources of the state.

Coincident with the development of these newly discovered deep oil and gas reserves, the state has put forward its best effort in the adoption, through statutory means, of a well constructed and effective conservation policy. It is designed on the order to prevent the physical waste of these resources and serve alike to greatest advantage, the common interest of the state, the owners and industry. Fortunately, the legislative act which created the present Oil and Gas Commission and empowered it to perform its duties, was formulated after a thorough study and review of the years of experience of the neighboring states in similar matters, and was passed in February, 1939. As a result the State of Arkansas offers, through effective conservation of its oil and gas reserve, to adequately and protectively serve those industries which may seek to establish themselves within the state in order to profitably utilize the now available large natural gas reserves.

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EXCERPTS from a paper presented by H. W. Bell, director, Division of Minerals, State of Louisiana, before the meeting of the Interstate Oil Compact Commission in Chicago, Oct. 1-3. Mr. Bell is a member of the Commission's Research and Coordinating Committee.

In 1905 the first gas well was discovered in Louisiana, and the first conservation step was a legislative act of 1906 making it a criminal offense to allow a gas well to remain out of control and providing for the state engineers to take over if necessary.

The highlights in Louisiana's part in gas conservation are recorded as follows: It began at Monroe with the adoption of engineering practices. The passage of Act 252 of 1924 and the promulgation of a number of new rules under that authority were follow-up tokens of sincerity. Strict enforcement of the law and the rules was undertaken—one of the beneficial results was the correct and honest reporting of natural gas volumes.

For casing-head gas, Act 253 of 1924 served to reduce the wastage of that commodity.

At Monroe the marked reduction of gas burned into carbon black about 1930 was on the side of conservation, the natural gas being diverted to pipe lines and retained as protection of a huge investment.

At Rodessa Field Orders No. 7 and No. 11 served to greatly curtail the wastage of both natural and casing-head gas, as many wells had their status changed from "oil wells" to "gas wells."

By means of the power to force unitization, the department has greatly aided in the consummation of cycling projects. That authority is usually not invoked until after plans are well formulated by the operators and a minor number of parties at interest refuse to sign agreements. Thus far the parties forced into unitization later found it to their advantage. Apparently some refuse to sign on account of ignorance or to maintain a negative position legally or in order to enlist the advice and protection of the state department.

The present plan is to reduce the permissible producing gas-oil ratios and let the low ratio wells produce the bulk of the allowable. It is contemplated to shift allowables from high ratio wells to low ratio wells of the same lease, after the open hearing of relevant evidence. It is intended to establish a normal allowable of oil for each well, based on such factors as depth, acreage and bottom-hole pressure. The actual allowable set should bear the same proportion to the normal allowable as the base gas-oil ratio bears to the producing gas-oil ratio, when the latter exceeds the former.

On Sept. 26, 1942, a statewide hearing was held at New Orleans. The department proposed a base ratio of 1200 cu. ft. per barrel, based on data and calculations. The Operators Committee asked for a base of 2000 on general principles. The discussion also included corollary rules. The order has not yet been issued. For fields not under special orders, the depth allowable, modified by aviation types, have applied, with a further modification on a base ratio of 4000 cu. ft. per barrel.

The present discussion was brought to a head through the Operators Committee making a promise to Governor Jones to give their earnest support to the saving of casing-head gas in return for his signing a bill that removed the tax on wasted casing-head gas.

Where too much gas is presently wasted from fields under special orders, hearings must be held before new orders may be promulgated.

Rapid Repair of Major Line Break

AN example of fast work in restoring service after a major line break was recently given by the maintenance crews of the United Gas Corp., Houston, Tex., when a break was first reported at 7 a. m. and the line placed in normal operation by 3:20 p. m. of the same day.

First indication of trouble came when early in the morning the dispatcher at Dallas Junction watched the pointer on the Latex-Fort Worth and Dallas main line gauge start slowly downward as the regular morning withdrawals from the industries and homes in the two latter cities started.

At first he was not alarmed, but as the needle continued to record lower pressures he called the dispatcher at Shreveport, reporting the condition. Here, too, the impression was that a peak load was being drawn from the lines by the industries and at the city gates of the two big cities. Within a few seconds, however, all doubt that there was a line break was dispelled as pressure at Dallas Junction dropped still farther. Maintenance crews swung into action immediately.

The break, a 3-ft. split in the pipe, was located at Milepost 135.5, approximately 33 miles east of Dallas and at 10:10 a. m. the crews had arrived and started digging bell holes. The welder began cutting out the damaged section of pipe at 11:40 a. m. A replacement section of pipe arrived from Mineola at 11:55 and at 12:20 it was in place, two Dresser couplings being used to make the tie.

At 12:35 the dispatchers were notified that the line was ready to be purged. As soon as the tie had been completed the replacement section was coated with Barrett's service cement, wrapped with pipeline felt and backfilled, the entire job with the exception of the purge being completed by 12:25 p. m.

Cast Iron Pipe Used for Gas System at Salem, Ill.

The oil boom which has occurred at Salem, Ill., making it the center of oil activities in the state, has trebled the town's former 5000 population in a few months and this has required a large expansion of utility facilities and equipment.

Altogether, more than 265,000 ft. of cast iron pipe has been laid for additional water and gas mains. The new gas system uses natural gas from the local gas field, and it is sold to the citizens at the lowest rate in the state, according to city officials.

The gas system comprises 3.5 miles of 8-in. mechanical joint cast iron pipe which transmits the gas from the wells to the city limits, and 29.25 miles of similar distribution mains which range in size from 2-in. to 8-in. The transmission line carries 30 lb. pressure and the distribution system carries 6 to 10 lb. pressure. Gas is used to heat the boilers at the municipal electric plant, making the city one of the large gas consumers.

■ ■

Cities Service Plans Construction of Pipeline

Construction of a 26-in. natural gas pipeline from the Guymon, Okla., sector of the Hugoton field to the Kansas City industrial area is being planned by the Cities Service Gas Co. Purpose of the proposed line is to augment the supply of gas needed in the company's eastern system.

The company holds leases on several thousand acres in the Guymon area and proposes to draw from an estimated 100 wells in that district.

The proposed line would extend eastward across the northern counties of Oklahoma into Osage county, Okla., thence northeasterly into Kansas to connect into the company's major transmission system. The proposed line will have a daily capacity of 165,000,000 cu. ft. of gas.

■ ■

Senate Committee Abandons Plan for Concrete Oil Line

A committee representing senators and representatives of New England and Atlantic seaboard states, where a fuel shortage exists, abandoned Jan. 15 a plan to press for construction of a Chicago-New York concrete pipeline in favor of a 24-in. metal line from Texas to New York for military needs.

The decision to ask for a 24-in. metal line paralleling the 24-in. line now under construction from Longview, Texas, was reached at a conference of the committee and representatives of Petroleum Administrator Harold L. Ickes. Mr. Ickes' aide told the committee that tests showed concrete was impractical, said Representative James Curley of Massachusetts, sponsor of the idea.

■ ■

New Oklahoma Gas Line

The Deep Rock Oil Co. is constructing a 6-in. natural gas pipeline to the Mid-Continent Petroleum Co., No. 1 Bonebrake, northwest of Agra, Lincoln county, Okla. The gas will be handled by the Deep Rock system and part of it will be utilized by the Oklahoma Natural Gas Co.

The Bonebrake well was opened in mid-December for an estimated 31,000,000 cu. ft. of gas daily. The well is believed to be the opener of a new gas field in Lincoln county.

Pipeline to Unite California Fields

SUTTER Buttes and Rio Vista natural gas fields in northern California are to be united by a new section of gas main to be laid between Roseville and Lincoln in the immediate future, it was announced Dec. 31. The Rio Vista supply will augment that from the Buttes until the latter is able to provide the quantity needed by consumers in the Sacramento valley.

Pacific Gas & Electric Co., San Francisco, applied recently for permission to lay the new main, 12 in. in diameter and 13 miles long, in order to supply gas to the big Lincoln pottery, which was its largest consumer on its Buttes mains. The link has been planned for some time to carry Buttes gas to the Sacramento system. A stoppage in Buttes well No. 3 turned the purpose.

The new pipe line is estimated to cost $223,561 and will have a capacity to handle 70,000,000 cu. ft. a month of gas at the ordinary distribution pressure.

With only five wells reaching down into only the upper strata of but a fraction of its field, Buttes Oilfields, Inc., rates as the second largest natural gas producing area in northern California. Its capabilities when fully developed can be only guessed at this time.

The company, a small one, financed by a group of stockholders, wildcatted an area that "experts" had consistently contended would not produce oil or gas. Its drilling has brought in five commercial wells that are supplying gas to the Sacramento valley system of the Pacific Gas & Electric Co., serving customers in Chico, Oroville, Colusa, Lincoln, Wheatland, Yuba City and Marysville, and way points.

In a report of the railroad commission of California dated Nov. 15, 1942, the reserve supply of gas in the Buttes field from only the wells now producing is officially estimated at 206,866,632 cu. ft., as of Jan. 1, 1941. Of this, 0.7% was drawn off during 1941.

The report shows officially that at the beginning of this year the field had delivered to the P. G. & E. mains three times as much gas as the total volume that privately employed engineers estimated to be available in the field.

Buttes company is working on plans to bring about extensive drilling to further develop the field in order to meet the wartime demands of northern California territory that the field can serve.

At Rio Vista 58 wells are now producing. The estimate by the railroad commission of the gas now known to be available there was 2,947,643,567 cu. ft., as of Jan. 1, 1941, the amount drawn off during the year being 0.5%.

Rio Vista is by far the largest producing field in northern California, but Buttes field is greater in estimated reserve supply than all the other fields in that end of the state combined. The others include Eureka, McDonald Island, Tracy and Vernalis.

The total natural gas reserves of California, as estimated by the state are in excess of 12,500,000 cu. ft. This figure includes dry gas and casinghead gas.

The Buttes company has 44,000 acres under lease in the Buttes field, and the wells that have been brought in have been of extremely high pressure. The producing strata are, however, of dense porosity, so that the flow is slowed down after the top pressure has been relieved. Such fields require more wells for a given area to draw off the gas, and are of longer life than are those where the producing strata are more porous.

■ ■

Michigan Gas Transmission Will Connect With Ohio Line

The Federal Power Commission announced on Jan. 19 its supplementary order denying the petition of the Ohio Fuel Gas Co. for a certificate of public convenience and necessity to construct approximately one mile of 16-in. pipeline to extend from its system to a proposed measuring station on the Michigan Gas Transmission Corp.'s pipeline in Ohio.

Through its opinion No. 81 and order issued Oct. 2, 1942, the commission authorized the construction of a connection between the systems of Michigan Gas Transmission Corp. (a wholly owned subsidiary of Panhandle Eastern Pipe Line Co.) and the Ohio Fuel Gas Co. to relieve the threatened shortage of natural gas in the Appalachian area.

The supplementary order states that the commission intended the connection be made by the Michigan corporation directly with the main line of the Ohio Fuel Gas Co. to Toledo and the Michigan corporation has advised the commission that it is prepared to construct the connecting line as the commission intended.

■ ■

Pipeline Construction

The Oklahoma Natural Gas Co., Tulsa, is constructing five miles of 6-in. natural gas pipe line to tap a supply of approximately 1,000,000 cu. ft. of gas a day available at the Pure Oil Co.'s No. 1, Fraser, in the Springer field, northwest of Ardmore, Okla.

The line will supplement the supply for Ardmore, Okla. Ed Campbell of Tulsa is the contractor.

■ ■

Gas Service Office Moves

The Gas Service Co. at Carrollton, Mo., moved to a new office at 20 South Folger St. on Jan. 13. Don Warner, manager of the Warrensburg and Carrollton group of properties, spent two weeks in Carrollton prior to the moving, supervising details.

Industrial Men To Meet In March

BEN H. GARDNER, chairman of the Industrial and Commercial Gas Section, has announced that the AGA War Conference on Industrial and Commercial Gas will be held at the Hotel Statler, Detroit, March 11-12.

The conference will feature two forums of gas men, manufacturers and government officials. One forum will be on Limitation Orders L-31 and L-174 as they apply to all industrial and commercial gas situations, and the other forum will be on commercial and industrial equipment as it is affected by government orders and war conditions.

Other features of the war conference will be papers, discussions and a question period on heat treating developments and applications for both ferrous and non-ferrous metals, particularly as they apply to war production work—views by the ordnance department on cooperation with gas companies; presentations by well-informed men of the effect of wartime experiences on post-war industrial and commercial developments; and the views of customers' production men on what the gas business can do to still further help increase war production and improve the preparation of food in quantity. Commercial and industrial maintenance problems will be discussed.

The program for the conference has been completed by a committee of utility men and manufacturers under the chairmanship of Hale A. Clark. Members of the committee are: George L. Ballard, Panhandle Eastern Pipe Line Co.; Henry M. Heyn, Surface Combustion; Newell E. Loomis, Michigan Consolidated Gas Co.; Eugene D. Milener, American Gas Association; Franklin T. Rainey, The Ohio Fuel Gas Co.; E. J. Shermire, Detroit-Michigan Stove Co.; and Charles G. Young, Springfield Gas Light Co.

Hotel reservations for the conference should be made directly with Hotel Statler as early as possible.

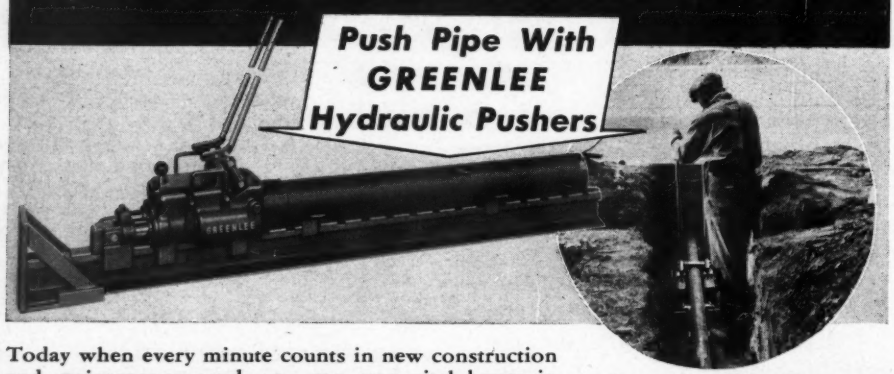
■ ■

Missouri Ass'n Meets April 16

The annual business meeting of the Missouri Association of Public Utilities will be held this year April 16-17 in Excelsior Springs, Mo., at the Elms Hotel.

The office of the association's secretary, Jesse Blythe, is located in the Merchants Bank Bldg., Jefferson City, Mo.

DON'T WASTE TIME DIGGING DITCHES NOW!



Today when every minute counts in new construction and maintenance work you can save vital hours in your pipe laying with Greenlee Hydraulic Pipe Pushers. There's no extensive trenching, no pavement cutting, no tunneling, no back filling, no repaving. Only a short trench is dug to accommodate the pusher and pipe. No extra power equipment of any type required . . . the powerful hydraulic units do the actual pushing. The No. 790 Pusher, with a 20-ton hydraulic unit will push 1¼ to 4-inch pipe. The No. 795 Pusher with a 75-ton hydraulic unit will handle large drainage ducts, concrete sewer pipe, and pipe beyond 4-inch.

One Man Can Operate

One or two men pumping the handles can easily develop power to push pipe under sidewalks, streets, highways, embankments, and railroad tracks. Greenlee Pushers are rugged and powerful enough to stand long gruelling service, yet they are compactly built into one unit and are easily carried to the job and set up. With these fast powerful pushers you can lay more pipe with less manpower and cut labor costs on every job.

SEND FOR NEW PUSHER BULLETIN S-117

GREENLEE TOOL CO.

1942 Columbia Ave., Rockford, Illinois

Canadian Gas Conferences Postponed for Duration

IN accordance with the Canadian government's expressed wish that conventions and conferences be withheld for the duration of the war, it was decided at a recent executive committee meeting of the Canadian Gas Association to forego the 36th annual convention scheduled for Niagara Falls, Ontario, June 3 and 4, 1943.

The Canadian Gas Association Laboratory Approvals Division, in line with the procedure adopted by the American Gas Association, has discontinued the issuance of the regular Directory of Approved Appliances and Listed Accessories for the duration of the war.

The CCA feels that the July, 1942, issue of the directory will be sufficient for reference purposes should information as to approved appliances be desired. Regular publication of the directory will be resumed as soon as possible after the war.

■ ■

New York Association Names J. W. Carpenter President

James W. Carpenter, vice president of the Long Island Lighting Co., was re-elected president of the Electrical and Gas Association of New York, Inc., at its annual meeting held Jan. 20. Other officers elected were: First vice president, S. J. O'Brien; president, S. J. O'Brien Sales Corp.; second vice president, T. F. Barton, vice president, General Electric Co.; third vice president, T. H. Joseph, president, E-J Electric Installation Co.; fourth vice president, Norman L. Myers, eastern manager, electric appliance division of Westinghouse Electric & Manufacturing Co., treasurer, H. C. Calahan, district manager, General Electric Supply Corp.; secretary, James A. Sackett, sales manager, Kings County Lighting Co.; and assistant secretary, C. A. Norton, Pierce Laboratory, Inc.

■ ■

New Post-War Appliance Committee Formed by PCGA

A committee on post-war appliances has been formed in the Pacific Coast Gas Association by President F. M. Banks and E. L. Payne, chairman of the manufacturers' section. The committee, headed by W. M. Jacobs, Southern California Gas Co., will have the use of the testing laboratories of the Southern California Gas Co. and the Portland Gas & Coke Co. Utility representatives are F. U. Naylor, Pacific Gas & Electric Co., and D. E. Farmer, Portland Gas & Coke Co. Manufacturer representatives are W. M. Couzens, Gaffers & Sattler; Klaas Eisinga, Continental Water Heater Co.; C. A. Miller, Servel, Inc.; J. E. O'Hagan, Grayson Heat Control; and Clyde Watts, Payne Furnace & Supply Co.

■ ■

PCGA Committee Handles Surplus Materials Under P-46

Because of the provisions of P-46, as amended on Oct. 10, requiring utilities to secure certain percentages of their materials from other utilities, President F. M. Banks of the Pacific Coast Gas Association, has appointed a committee headed by N. R. McKee, vice president, Southern Counties Gas Co., Los Angeles, to handle the necessary paper work.

All gas companies in the Pacific Coast states are exchanging lists of surplus commodities as defined in the order, and a lively business is expected while any surplus of usable material remains. The committee will attempt to locate elsewhere any material needed by a Pacific Coast gas company but not available in this region.

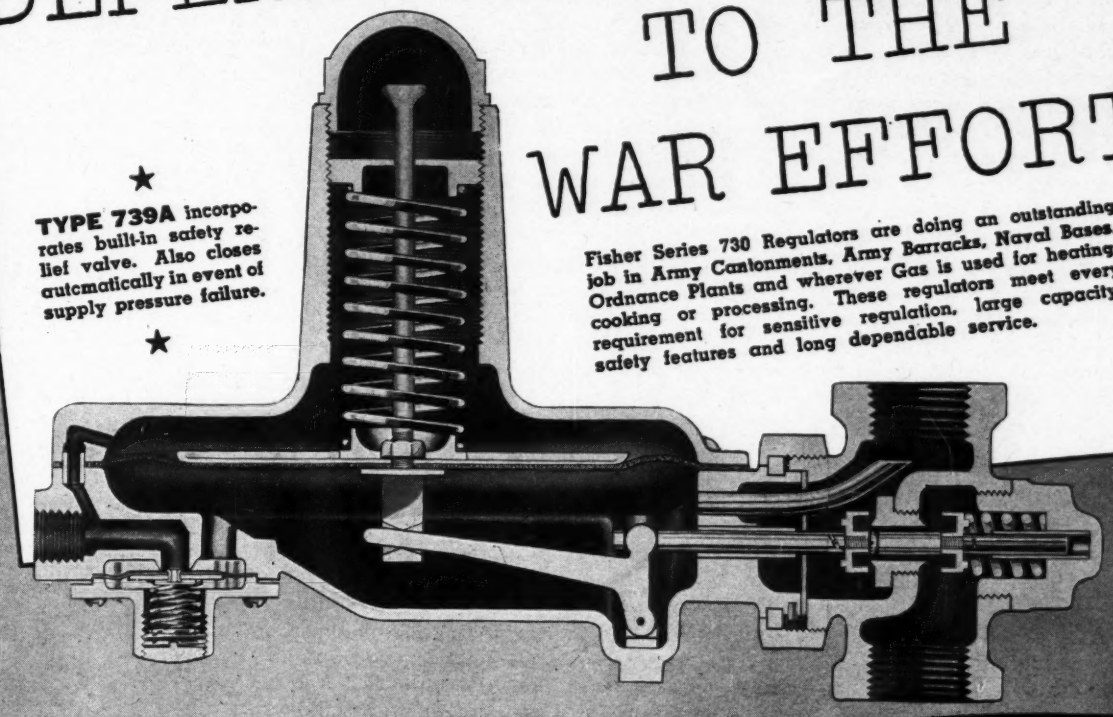
DEPENDABLE SERVICE TO THE WAR EFFORT

★

TYPE 739A incorporates built-in safety relief valve. Also closes automatically in event of supply pressure failure.

★

Fisher Series 730 Regulators are doing an outstanding job in Army Cantonments, Army Barracks, Naval Bases, Ordnance Plants and wherever Gas is used for heating, cooking or processing. These regulators meet every requirement for sensitive regulation, large capacity, safety features and long dependable service.



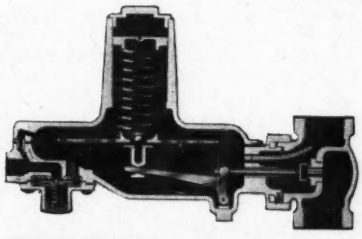
FISHER *Series 730* REGULATORS

From this series of service regulators you can select a type and size that will exactly meet your requirements. All types incorporate such important construction features as:

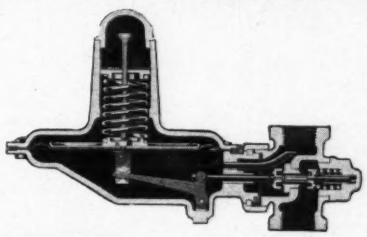
- ★ Automatic pressure loading — assuring constant reduced pressure.
- ★ Easily renewable valve disc and orifice.
- ★ Large area, durable, sensitive diaphragms.
- ★ Spring accurately selected for pressure range specified.
- ★ Interchangeable bodies.

ASSURE Safe — Dependable — Accurate — Low Pressure Gas Regulation for all heating, cooking and processing appliances. Available for manufactured, natural, Butane and all similar gases. Suitable for initial pressures up to 150 lbs. per square inch — reduced pressures 2" W.C. to 7 lbs. per square inch.

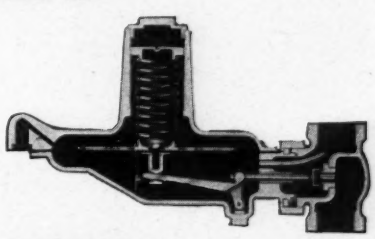
FOR FULL DESCRIPTION OF ALL TYPES, WRITE FOR BULLETIN 43D



TYPE 733A . . with built-in safety relief valve, diaphragm actuated for protection against excessive reduced pressures.



TYPE 738 . . automatically closes in event of supply pressure failure, but without safety relief valve feature.



TYPE 730H . . standard construction, but with bug-proof and weatherproof screened vent — without relief valve.

FISHER GOVERNOR COMPANY

820 FISHER BUILDING

MARSHALLTOWN, IOWA

California Butadiene Plant Progress

THE Southern California Gas Co., Los Angeles, is preparing to manufacture butadiene for synthetic rubber at one of its old manufactured gas plants, which has been inactive except for occasional standby service since natural gas was introduced to Southern California about 15 years ago. (See *GAS*, August, 1942, p. 15.)

Under this program, the gas company is having an extraction plant built for the purpose of taking high pressure gas from the outlet of the company's compressor plant and extracting crude butadiene from the gas. The gas company itself is building additions to its existing boiler plant and gas generating facilities under an agreement with the Defense Plant Corp.

Since a large amount of existing gas plant equipment required in the butadiene process—such as gas generators, boilers, compressors and gas holders—is available at the Southern California Gas Co.'s works, a considerable saving in expenditures for critical materials has been effected.

An operating agreement has been made by the Rubber Reserve Co. and the gas company. Naphtha feed stock will be used for producing gas containing butadiene.

The estimated production of butadiene by the gas company is 30,000 tons a year. Crude butadiene will be piped from the gas plan to Shell Chemical Co. near Torrance for purification, and then delivered to a co-polymer plant, where it will be polymerized with styrene in the production of synthetic rubber.

Initial steps looking toward the development of this project were taken in April, 1942, when technical engineers representing Rubber Reserve Co. made a nation-wide survey of existing plants potentially suitable for the production of butadiene. Several of the most adaptable plants for early production under tested methods were found in the manufactured gas industry. A study was made of the larger oil-gas manufacturing plants on the Pacific Coast, with the result that Rubber Reserve instructed Southern California Gas Co. to proceed with necessary plant additions and modifications for the early production of butadiene.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

A MAXIMUM OF ENGINEERING PERFORMANCE

H-M Low Pressure Gas Regulator. Sizes from 3/8-in. to 2-in.

A Low Pressure Gas Regulator with Efficiency at Its Highest

This Same Precision Production

Is Now Being Used in Making War Materials

To Beat the Axis

Low Pressure Regulators Are Still Available in All Sizes

H-M REGULATOR COMPANY
THERMO CONTROL CO.
800 EAST 108th STREET LOS ANGELES, CALIF.

Cabot Gas Corp. Must Serve Upper New York Users

THE Federal Power Commission announced Jan. 12 an order and opinion denying to the Cabot Gas Corp. and Godfrey L. Cabot, Inc., permission to abandon pipeline facilities in upper New York state.

The opinion states that "should these applications be granted certain industries, of which several are engaged in war production, numerous towns and villages, including at least several hundred homes and a number of schools and buildings now heated by gas, might and probably would be, on short notice, deprived of essential services."

Cabot Gas Corp. sought permission to abandon the service of natural gas from its 14-in. pipeline to its customers in the state of New York, and to abandon the transportation of natural gas for ultimate redelivery to Godfrey L. Cabot, Inc., parent company of Cabot Gas Corp. By its separate application, Godfrey L. Cabot, Inc., applied for permission to cease supplying natural gas to Cabot Gas Corp., to Producers Gas Co. at points in Angelica and Belmont, Allegany county, New York, and to certain customers of Empire Gas & Fuel Co., also in Allegany county.

FPC holds that the applicants be held to convincing proof of the specific conditions of Section 7(b) of the Natural Gas Act, namely, that their available supply of natural gas "is depleted to the extent that continuance of service is unwarranted," and that "present or future public convenience or necessity permit such abandonment."

■ ■

Health Booklet Presented By Appliance Association

"Protecting the Health of the Nation" is the title of a thought-provoking little booklet prepared by the Association of Appliance and Equipment Manufacturers, New York, under the direction of Jim Donnelly, chairman, gas water heater division.

By the use of direct quotations from speeches made by nationally known authorities, the booklet stresses the importance of maintaining public health and guarding against disease and epidemics in time of war. Sketched illustrations are presented to show how the number of disease-caused casualties in recent wars outnumbered actual battle casualties. The part hot water plays in the prevention of disease and how gas water heaters assist in providing that protection is shown within the pages of the publication.

■ ■

"Nutrition in Industry" Gets Added Recognition

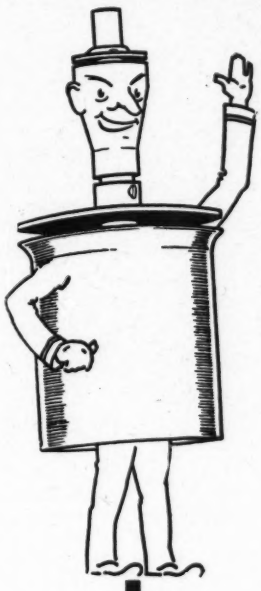
The "Nutrition in Industry" program sponsored by Servel, Inc., Evansville, Ind., has received additional recognition in the form of an article appearing in the Jan. 1 issue of *Printers Ink*. The feature, written by George S. Jones, Jr., vice president and general sales manager of Servel, tells how this nationally accepted campaign is filling a wartime need and at the same time building good-will for the return to peacetime operations.

■ ■

Brooklyn Union Sendouts Exceed 100,000,000 Cu. Ft.

Sendouts by the Brooklyn Union Gas Co., Brooklyn, N. Y., exceeded 100,000,000 cu. ft. twice in January. On Jan. 4 the sendout was 106,449,000 cu. ft. and the next day it was 100,980,000 cu. ft.

There have been 10 days this winter when the 100,000,000 cu. ft. sendout figure was exceeded.



JOHN ZINK
BURNERS
MUST
BE
GOOD

"*Making Burners* is still our business"

We're busy now manufacturing John Zink Burners for plants that are producing 100-octane gasoline, toluene, butadiene, styrene, magnesium, aluminum and many other warfare products. But after the war we shall again manufacture that amazing John Zink Gas-Fired Floor Furnace in FOUR different sizes.

John Zink manufactures more than FIFTY TYPES of burners for domestic boilers, heating boilers, industrial boilers and power boilers. The designs are protected by TWENTY United States Letters of Patent.

John Zink recommends these burners for war-time installation. JOHN ZINK BMD SWIRLING FLAME SPIDER—shortens the flame and gives unbelievable heat distribution. The products of combustion leave the burner in a rapidly spreading bushy swirl; SERIES Y REGISTER TYPE COMBINATION BURNER—burns either, or both gas and oil with the same heat pattern. Easy to remove fuel guns. Feather weight. One man can remove guns for inspection and cleaning while the boiler remains in service; SERIES "V" PRE-MIX BURNER —absolutely noiseless, especially good for boiler installations in apartments, schools and churches.

John Zink and his Engineers are willing and capable of designing and manufacturing special burners for special purposes.

JOHN ZINK COMPANY

Tulsa, Oklahoma

NEW YORK • LOS ANGELES • DETROIT • SAN FRANCISCO

National Advertising Schedule Approved

THE second half of the gas industry's national advertising program for 1942-43 was signalized in January by the appearance in *Collier's*, *Life* and the *Saturday Evening Post* of full-page ads entitled "I helped cook 'em in my kitchen," a reproduction of which is shown on this page.

The committee has approved a tentative schedule of advertising running through May, but ads are being completed individually to conform with rapidly changing conditions.

Following is the tentative schedule of future insertions.

Collier's	*Life*	*Saturday Evening Post*
Jan. 30	18	30
Feb. 13	15	20
March 13	15	20
April 17	19	24
May 15	17	22

Nearly 100 gas companies now purchase mats of the ads for publication in their local papers. Most of these companies are currently promoting conservation and curtailment of gas fuel and are using the national ads as well as the special ads and folders prepared by the association's publicity and advertising committee.

To expedite delivery of mats and reduce correspondence and billing, it is suggested that companies purchasing mats place blanket orders now for all five future ads. The most effective way in which these mats can be used to tie in with the national campaign is to schedule them for publication on or close to the dates listed above. Mat prices are $2 each for 5-col by 12 in. and $1 each for 3-col. by 8 in. to subscribing members. Prices to non-subscribers are just double those quoted.

■ ■

Gas Range Cookery Chart, Revised, Now Available

THE home service committee of the American Gas Association has announced a revised 1942 edition of the approved Time and Temperature Chart for use with gas ranges to give to homemakers for assistance in their cooking, according to Jeannette Campbell, chairman of the committee.

In its original preparation (as a part of the 1940 CP range program), a sub-committee of the home service committee was requested to review information from all related sources. Jane Roberts of the Roberts & Mander Stove Co., as chairman of this continuing committee, has completely revised the chart to incorporate all up-to-date information on cookery methods. There were over 50,000 copies of the first edition bought by gas companies throughout the United States.

The revised chart now entitled "Gas Range Cookery Chart" is a guide which includes as much related material on product, utensils and other influencing conditions as space on the card will permit. The chart is of convenient size—8½x11 in.—and suitable for placing on a wall close to the range. An order blank quoting prices and directions for imprint is included. Samples of the chart are sent only on request.

■ ■

Senate Committee Holds Investigation in Oklahoma

Testimony developed before the United States Senate special investigating committee during a two-day hearing in Oklahoma City, Jan. 23-24, indicated that the natural gas industry can meet the demand from present reserves but is limited by transportation facilities. Conversion from gas to other fuels has been a handicap to some industries.

U. S. Senator Clyde M. Reed of Kansas, who conducted the Oklahoma City hearing, said he had always favored the use of natural gas for "higher" purposes, principally for home heating.

Dan O. Howard, engineer of the Oklahoma conservation department of the corporation commission, told the committee that Oklahoma produced 276,532,209,000 cu. ft. of natural gas in 1942, an increase of 6% over 1941. He predicted that production for 1943 will probably exceed these figures because industry has been keyed to war demand and there has been an increase in population in areas served almost wholly with natural gas.

Mr. Howard further testified that during 1942 over 50,000,000,000 cu. ft. of gas were transported to markets outside the state.

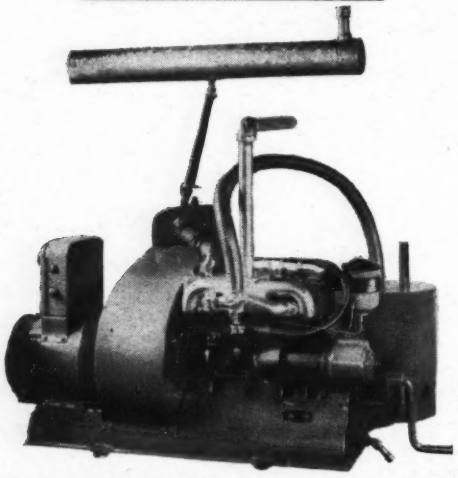
■ ■

Gas-Sweetening Plant Proposed for Arkansas

W. A. Delaney, Jr., of Ada, Okla., recently applied to the Arkansas Oil and Gas Commission for permission to construct a gas-sweetening plant in the Texarkana field in Arkansas. The new plant would cost approximately $250,000 and would be designed to remove the hydrogen sulfide from gas produced in the field, thus making the gas suitable for commercial use.

CATHODIC PIPE LINE PROTECTION

VITAL TO VICTORY



4-CYLINDER NEW IMPROVED 1943 MODEL JACOBS CATHODIC UNIT

IMMEDIATE DELIVERY AT PRESENT

Operates on Natural Gas, Butane or Gasoline

Meets any requirements from 1000 to 5000 watts, with ampere maximum 150, volts 10 to 40. Slow operating speed, 600 to 800 r. p. m. insures longer service. Other specifications—Fram oil filter, extra large 5-gal. oil crankcase reservoir, super-size special design oil type air cleaner, heavy duty Scintilla Magneto, extra heavy duty spark plugs, automatic radiator condenser (many months without added water) and automatic fuel shut-off insure peak operation and safety with minimum maintenance.

Immediate delivery now. Anticipate your requirements; we cannot assure future delivery schedules and prices. **Write for Complete Literature and Prices.**

THE JACOBS WIND ELECTRIC COMPANY, INC.

PIPE LINE DIVISION • MINNEAPOLIS, MINNESOTA

America's Leading Manufacturer of Pipe Line Cathodic Plants

Our 2000th is a Woman

SINCE PEARL HARBOR more than two thousand proud "good-byes" have been said to employees of this Company entering the military services.

Early this month it was "good-bye and good luck" to Miss Violet Hooe of the Service Department in Oakland. When Miss Hooe enlisted in the SPARS—United States Coast Guard—she became the two thousandth employee to join up.

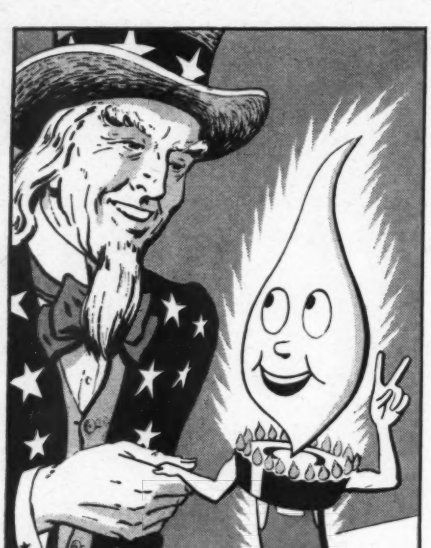
In July, 1942, William J. Hickey, steam plant engineer, changed to Navy blue as Boatswain's Mate—Second Class. At that time he was the thousandth employee who had gone to war.

Two thousand young men and women means at least one out of every six of this company's employees are now on war duty. Two thousand means an average of one hundred and fifty employees each month have gone "on assignment" to the most important job in the world today.

Good-bye and good luck. When the job of beating the Axis is finished—come back to us. Your service record, your job seniority and your interests in the company's old-age retirement plan will be preserved intact and waiting for you. That is the farewell pledge of your company.

P·G·and E·

PACIFIC GAS AND ELECTRIC COMPANY



TEAMWORK WINS

Gas Industry of the West Solves Wartime Problems by Cooperation.

For nearly a half-century, members of the P.C.G.A. have *pulled together.* War found them ready and able to meet emergency demands. One example:

SHORTAGE OF MATERIALS

Steel, copper, rubber, leather and tin to the Gas Industry mean pipe, valves, gaskets, solder and countless other items—used daily in serving the armed forces, vital war industries and 1,250,000 western home consumers. How to make the available supplies go further?

MEMBERS POOL RESOURCES

Gas companies exchanged inventory lists, to the end that emergency needs of one could be met from stock piles of others. Similarly, appliance manufacturers collaborated to assure completion of the maximum number of partially fabricated units. ★ An industry that can cooperate is a healthy industry. Gas men know *teamwork;* that's the spirit that wins!

THE PACIFIC COAST GAS ASSOCIATION

SERVING THE WEST—IN WAR AND PEACE

GAS FUEL

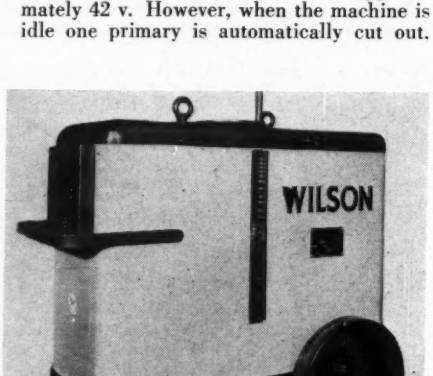
PRODUCTS

Arc Welding Machine

Wilson Welder and Metals Co., Inc., 60 East 42nd St., New York.

Model: Wilson "Bumble Bee" AC Welder.

Description: The welder has a low open circuit voltage of 42 v. Two primary coils are used instead of the usual one, with a magnetic contractor in the circuit of one primary. Each primary contributes approximately 42 v. However, when the machine is idle one primary is automatically cut out.



restricting the open circuit value to 42 v. As soon as the electrode contacts the work, the second primary is thrown into the circuit, and if there were not a dead short, the voltage would be 84-85 v.

When the operator draws an arc, this open circuit potential of 84-85 v. enables him to establish his arc quickly and begin welding. Most welding operations are performed at between 32 v. and 40 v. When welding is completed and the operator pulls out or lengthens his arc. the arc voltage rises. The moment it reaches 45 v. the contactor opens and cuts out one primary, leaving only 42 v. in the open circuit.

This machine is portable and streamlined, being only 18 in. wide. It has dual voltage connections for either 220 or 440 v. and thermal overload protection provided by a cutout coil buried in the winding. A single hand wheel control gives an infinite number of current adjustments throughout the NEMA range.

■ ■

Thermostats

White-Rodgers Electric Co., 1209 Cass Ave., St. Louis, Mo.

Model: White-Rodgers Explosion-proof Thermostats.

Application: For use in heating, refrigerating and air conditioning installations where hazardous conditions exist.

Description: There are two types of these hydraulic action controls. The self-contained types are recommended for controlling the temperatures of large air spaces and the remote bulb types are best suited for controlling temperatures in ducts, walk-in coolers, liquid baths and similar applications.

An external knob or tamper-proof internal adjustment is available in both fixed and variable differential types. The semi-steel cases have been approved by Underwriters' Laboratories. The controls are tapped for ½-in. conduit fitting and are finished in black, baked crackle enamel.

■ ■

Flow Transmitter

Cochrane Corp., 17th and Allegheny Ave., Philadelphia, Pa.

Model: Cochrane Style H Transmitter.

Application: For the measurement of low static pressure gases where low differential and resultant low permanent pressure loss is of prime importance.

Description: Differential pressure created by flow is applied to the opposite sides of the oil sealed bell with the pressure from the connection before the primary element being applied under the bell and the downstream pressure above the bell. A metallic displacer in the central reservoir is submerged in mercury to a point where the bell and displacer just float when no differential pressure is exerted. A flow of gas resulting in a change of differential pressure raises the bell, lifting the displacer from the mercury with the change in buoyancy being just sufficient to give a bell movement proportional to the differential pressure. The translation of bell movement to uniform chart readings is accomplished by the individually calibrated cam common to Cochrane receivers.

The Style H transmitter is designed for differentials of 2, 4, 6, 8, or 10 in. of water. Standardization of design permits altering the differential head by changing the displacer and amount of mercury in the central reservoir. The bell casing is designed for a maximum working pressure of 75 psi.

Differential pressure in excess of the design differential will move the bell to its upper limit, and the gas will bubble out from under the bell with relatively little disturbance because of the large volume of bell in comparison to the size of high pressure inlet pipe. Normal operation of the meter is resumed upon the differential falling to normal values.

Sealing oil level can be checked through the filling plug without removal of the top cover. The same mounting bracket can be used in either wall or floor mounting of the unit.

■ ■

Furnace Atmosphere Control

Westinghouse Electronic Co., East Pittsburgh, Pa.

Model: Electronic Control for Furnace Atmosphere in Steel Treating.

Application: This atmosphere control provides a continuous check on the purity of the hydrogen gas flowing over the metal in an atmosphere furnace. Such control is important where the dew point of the treating

gas must be maintained in the critical region of —40 C. to —70 C., or for precise furnace conditions such as required for bright annealing and for chemical processes, using purified dry hydrogen or similar controlled gases.

Description: In this control the gas flows through a two-element tube containing a tungsten filament and plate. Electrons flying from the hot filament to the plate continually bombard the gas. If the gas is pure dry hydrogen, all the electrons reach the plate. But any oxygen or water vapor in the gas immediately picks up some of the electrons and forms negative ions, thereby reducing the electron current. This change of current in the plate circuit indicates the degree of impurity in the gas.

■ ■

Catalogs

• Air Reduction Sales Co., 60 East 42nd St., New York City, has prepared a 14-page "fight waste" bulletin which consists of a series of shop posters on welding practice that can be cut out and hung in the shop to impress arc welders with the necessity and ways in which to do more useful work with every electrode. Each poster, of which there are six, first illustrates a common wasteful practice and then shows the corresponding good practice. In each poster the ease and simplicity of doing the job the right way is clearly pointed out. Although bound securely into the booklet, the posters are perforated for each detachment and posting on shop bulletin boards. There is no charge for the booklets.

• •

• The B. F. Goodrich Co., Akron, Ohio, has issued a 24-page booklet titled "Care and Maintenance of Conveyor and Elevator Belting." Titles of some of the chapters in the booklet are: Why the Care of Belts Is Worth While; Belting Wear at Loading Points; Making Conveyor Belts Run Straight; Belt Wear Due to Defective Idlers; Excessive Tension; Hazards to Belts on Portable Conveyors Such as Light, Heat, Moisture, etc.; How to Install Conveyor Belts; Vulcanized Splices and Repairs.

• •

• The Brown Instrument Co., Philadelphia, Pa., has just issued a new catalog, "Thermometer and Pressure Gauge Accessories," in which specifications and operating principles of the numerous types and models of instruments are fully covered. The new catalog is presented as a supplement, listing and describing bulbs, sockets, tubing and accessory items for the complete line of Brown Thermometers and Pressure Gauges. Information and specifications contained in the catalog have been compiled with the idea of making it easy to order the proper accessory direct from the catalog. Descriptions of the various items mention part numbers, sizes, spans, maximum tubing lengths, etc. Photographs show bulbs, tubing extension necks, separable sockets, wrought iron sockets and fittings, wet and dry bulb assemblies, pulsation checks, oil seals, gauge cocks and charts, etc. The catalog, No. 6706-A, may be obtained by writing The Brown Instrument Co., Wayne and Roberts Aves., Philadelphia, Pa.

FPC Authorizes Merger of Four Ohio Utility Firms

The Federal Power Commission an Jan. 4 granted permission to the Cincinnati Gas & Electric Co. to merge its facilities with those of the Harrison Electric & Water Co., the Hamilton Service Co. and the Loveland Light & Water Co. All four companies are wholly owned subsidiaries of the Columbia Gas & Electric Corp. and have their principal offices in Cincinnati, Ohio.

The Harrison company proposes to sell its Indiana properties to a newly organized corporation, West Harrison Electric & Water Co., Inc., at which time the Hamilton, Harrison and Loveland companies will be merged into Cincinnati, with the Cincinnati Gas & Electric Co. as the surviving corporation.

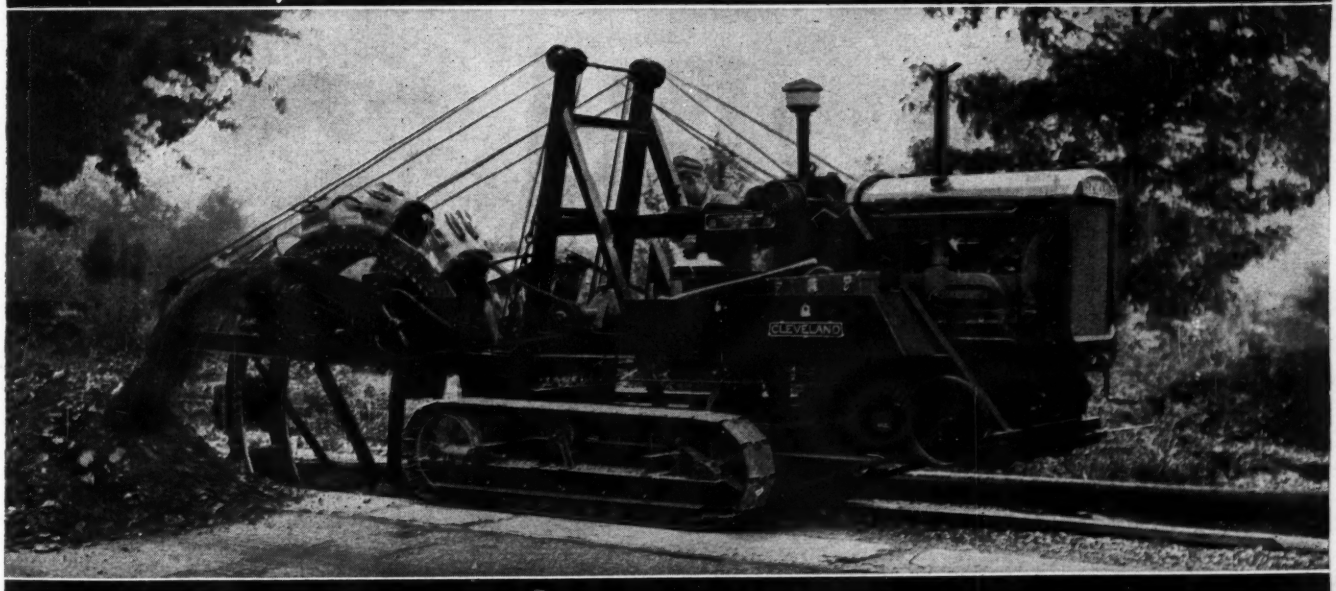
■ ■

Record Sendout Registered By Lone Star Last Month

Dallas, Texas, went through its near-record low temperature on Jan. 18-19 with remarkably few complaints about low or inadequate gas pressure, according to officials of Lone Star Gas Co. With 93,000 meters in operation in metropolitan Dallas, only 13 complaints about gas supplies were received by the company the first day, and only one came in the second morning, officails reported.

"Considering that we have had the biggest output of gas during this cold wave in the history of our company, and that no lines were out during this time, we believe the gas service furnished has been all that could be expected," a company statement said. Most complaints received were due to inadequate, insufficient or improperly adjusted appliances.

In This—the Great Emergency— **CLEVELANDS** *As Always—Are Coming Through*



When there's ditch to dig—or fill—you'll always be glad you bought a "CLEVELAND."
Keep them in fighting trim by regular attention to maintenance and lubrication.

THE CLEVELAND TRENCHER COMPANY
20100 ST. CLAIR AVE. *"Pioneer of the Small Trencher"* CLEVELAND, OHIO

"CLEVELANDS" Save More . . . Because they Do More

ABSTRACTS

Odorizers and Their Operation—Southwestern Gas Measurement Short Course, University of Oklahoma, Norman, Okla. The Findings of the Committee for the Study of Practical Methods show their applications from minimum to maximum requirements and provide either approximate or reasonably accurate proportioning. Covered in the report are the following: (1) small individual wick type, patented, for small volumes; (2) by-pass vaporization type, simplest of the proportioning type with accuracy comparable to pitot tubes for use in small towns; (3) liquid injection type, patented, in which meter operators pump to proportion odorant; (4) drip type with odorant lubricated into line using sight feed and manual control; (5) dripe type proportioner, patented, a lubrication type but having orifice in gas line and utilizing upstream pressure to control lubrication rate; (6) storage tank installation with an elaborate set-up for large volumes and meter operated proportioning. The material presented covers types of odorizing equipment and the installation and operation of equipment. The relative merits of odorants and odorization are not discussed.

Letter Circular LC689—Kirk H. Logan, chief of the Bureau's Underground Corrosion Section, is a summary and restatement of observations relating to corrosion of buried metals that have been presented in the Bureau's own publications and in the technical press.

Since underground corrosion is the result of a wide variety of forces, an accurate prediction of the performance of an individual piece of metal is not to be expected. However, the average performance of an adequate number of specimens of a metal under specified conditions can be roughly predicted.

Differences of potential, which are the chief causes of underground corrosion, may originate in differences in the metal and soil, or in conditions incidental to the manner in which a pipe line or other metal structure is installed. Some of the causes of corrosion can be readily recognized and avoided; others may not be easily recognized, or may be unavoidable though known.

Requests for copies of LC689 should be sent to K. H. Logan, National Bureau of Standards, Washington, D. C.

Adjustment of Customer Service to Wartime Conditions—D. C. Ellswood, Southern Counties Gas Co., Los Angeles, Calif. Customer service in the past has accounted for a fair percentage of the total annual mileage of most of the gas utility companies in the western section of the United States. Since the advent of the war, and the ensuing effort to conserve mileage in the interest of tire saving, ways and means to effect savings were started locally.

To determine what other companies were doing, or were considering, a questionnaire was prepared covering general customer service, inspection orders, meter sets, turn-ons and turn-offs, and appliance parts-replacement service. This questionnaire was sent to eight companies operating in the western states.

The results show considerable difference in present practices, but most of the difference is due to variation in practices existing prior to the emergency. Each company, however, has listed several changes they have under consideration, and as the use of automobiles is decreased, these will undoubtedly be put into effect. (See GAS, June, 1942, p. 22.)

Oil-Reservoir Behavior Based Upon Pressure Production Data—H. C. Miller, Bureau of Mines, Washington, D. C., 36 pp. 3 figs. Summarizes results of a study of relation between cumulative decline of reservoir pressure and corresponding cumulative recovery of oil in water-drive reservoirs in which oil is saturated with gas.

Permissible Methane Detectors—L. C. Ilsley and A. B. Hooker,, Bureau of Mines, Washington, D. C., 10 pp. 4 figs. Covers investigations of detectors since January 1, 1937, including present permissibility requirements as to design and performance and brief description of each detector. Accurate knowledge of amount of methane being given off at face workings is essential to safe mine operation.

Specific Volumes and Phase-Boundary Properties of Separate Gas and Liquid Hydrocarbon Mixtures—Kenneth Eilerts and R. Vincent Smith, Bureau of Mines, Washington, D. C., 57 pp., 21 figs. Give results of study of phase relationships of fluids produced from combination wells at pressures and temperatures characteristic of production from natural reservoirs, and of mixtures of gas and liquid from separator combined in other proportions than those considered in paper.

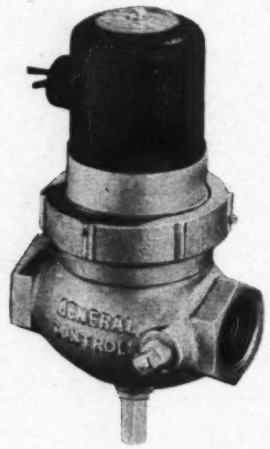
Safeguarding Industry, A War-time Necessity—National Board of Fire Underwriters, 85 John St., New York, N. Y. Every factory, warehouse, or other institution, great or small, is part of the nation's assets. If it be destroyed at a time when the nation needs every ounce of her vitality, her ability to win the war will be lessened in proportionate degree. The booklet describes fire hazards and the means of correcting them. It deals with protecting against sabotage as well as against ordinary fires.

Standardization Activities of National Technical and Trade Organizations—National Bureau of Standards. (288 pp.; for sale by Superintendent of Documents, Washington, D. C.; 75¢.) Outlines activities and accomplishments of 450 American societies and associations in which standardization is a major or important activity. Work of the four general standardizing agencies is summarized. The 450 organizations are listed alphabetically.

Clinton Sand Drilling and Production in Central Ohio—H. N. Ross, Gas Producing Co. of Ohio, Newark, Ohio. A detailed description of the geology spacing, drilling, completion, production, and abandonment of natural gas wells in Central Ohio.

ACKNOWLEDGED LEADER IN ITS FIELD

K-3B



GENERAL CONTROLS
MAGNETIC GAS VALVE

Universally Accepted as Standard Means of Providing Positive Control of Gas To Heat-Treating Ovens, Boilers, Furnaces—other industrial applications.

★ Available in widest range of sizes, from 3/8" to 6" I.P.S.
★ For operating pressures up to 5 pounds.
★ Unusually low in current consumption.
★ For all voltages and frequencies, A.C. or D.C.
★ Quiet, positive and trouble-free operation.

Write for New Catalog No. 52

GENERAL CONTROLS
801 ALLEN AVENUE • GLENDALE, CALIFORNIA
Branch Offices: Boston • New York • Philadelphia
Cleveland • Detroit • Chicago • Dallas • San Francisco

110 Companies Participate in AGA Gas Conservation Program

THE Association's gas conservation and curtailment program issued to all gas companies Nov. 23 has met with a gratifying response. One hundred and ten companies have ordered 2500 mats of newspaper ads for use in the local press. The three pamphlets included in the conservation material also have been generously used, more than 240,000 copies of which have been ordered by gas companies. Prior to its distribution to the industry, all of the above material received the approval of the Power Division of the War Production Board.

The substantial amount of AGA conservation material ordered is no accurate measure, however, of the total volume of gas conservation advertising placed locally by the various operating units of the industry. The *AGA Monthly* for December and January shows typical ads on gas conservation published by some representative companies. In addition, 91 companies have ordered 920 newspaper mats reproducing the gas industry's national ads, all of which make extensive mention of the need of gas conservation in the home.

Each shipment of AGA conservation mats contains a request that tear sheets of the ads be forwarded to headquarters for transmission to the War Production Board, which has expressed a desire to review this advertising, as well as other gas conservation advertisements originated by the companies themselves.

The Association is endeavoring to ship material to the companies on the same day orders are received. In order to facilitate shipments it is necessary that the Association anticipate requirements and place orders with the printer for substantial quantities of this material. Therefore, if a company has an additional need for this material, or if it has not as yet ordered the Association's conservation ads or booklets but is considering participation in this program, the Association would appreciate an early receipt of an order.

■ ■

Priorities Hold Up Cities Service Hugoton Field Gas Line

A. W. Ambrose of Cities Service Gas Co. testified at an FPC rate hearing Jan. 23 that the company's potential gas reserves in the Hugoton field were bottled up by priorities.

Mr. Ambrose, vice president and general manager of the company, said under cross-examination by Harry S. Littman, FPC attorney, that it was his conclusion that the War Production Board had found no way to provide steel pipe for a line into the field.

The company, through its witnesses, previously had brought out at the hearing that rate reductions recommended by the FPC staff would make it impossible to borrow $15,000,000 to build such a line.

Ambrose testified that while his company never had filled out forms, it had discussed the matter with the WPB and was informed that there was no steel available for a line. A letter explaining the shortage and the need for a line into the field was sent to the WPB last July, he said, and a letter asked that the first one be considered as an application for critical materials.

■ ■

Oil Flowing in Texas End of War Emergency Pipeline

The first batch of crude oil is now moving into the 24-in. war emergency pipeline at Longview, Texas.

"Line-filling started on New Year's Eve, and despite washed-out river crossings, delay in deliveries of materials and other bad breaks that have hampered completion of the 'big inch,' we managed to achieve another major objective—'oil in the big line by the end of 1942,'" Petroleum Administrator Ickes said.

"Actual delivery of this first batch of oil at the Norris City, Ill., terminal must await repair and completion of the washed-out Mississippi crossing, but by pumping oil into the lower section of the pipeline while the break is being repaired we shall be able to save much of the time lost through damage."

Additional pumping and pipeline equipment can be installed on schedule and deliveries of oil at Norris City may still be possible on or about Feb. 1.

■ ■

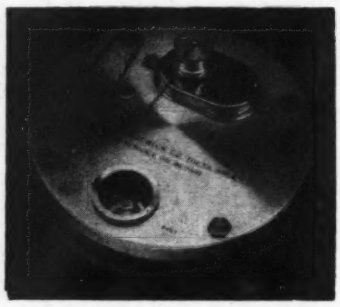
Pamphlet on Wartime Appliance Sales Issued by Southern California Gas Co.

Southern California Gas Co., Los Angeles, has published a pamphlet dated Jan. 21 and entitled "How to Purchase Gas Appliances under War Production Board Limitation Orders" for distribution to the company's dealer representatives and district offices. The purpose of the pamphlet, according to R. V. Davis, supervisor of dealer sales, is to explain in the simplest possible language the conditions under which new appliances may be purchased and the steps that must be taken in applying to WPB for permission to purchase appliances.

Johns-Manville
TRANSITE FLUE PIPE
AN ASBESTOS PRODUCT
For venting gas-burning appliances

NOW is the time to
Standardize on

MACNICK CHART CLOCKS



Same Macnick Clock Fits Nearly ALL Instruments Using Circular Charts

•

ONE Macnick Clock Gives You TEN Rotation Speeds

•

The Price? STILL

$9.50 EACH

For the 24-Hour Clock complete with Adapter and Winding Key

Interchangeable Converter Gears to effect one turn of the chart in 2, 3, 4, 6, 8, 12 or 24 hours, or in 2, 3 or 7 days, $3.50 each.

Clock Hermetically Sealed

Macnick Chart Clocks maintain their accuracy and give longer service because they are hermetically sealed against dust, moisture, and corrosive gases. This protection cuts repair costs to a point approaching zero.

Because Macnick Clocks fit practically all instruments using circular charts, you can reduce your clock inventory drastically by adopting them as standard for your company. In addition, maintenance work becomes a simple routine, easily taken care of and very inexpensive.

The interchangeable converter gears are installed easily without special tools and without removing the clock from the instrument.

For years Macnick Chart Clocks have been the standard of comparison. Thousands are in use, and sales to major companies have increased steadily year after year.

Order several today — try them in your various instruments under any service conditions. You'll agree that it will pay you to STANDARDIZE ON MACNICKS.

Send for Bulletin No. 104-A

AMERICAN RECORDING CHART CO.

3113 E. 11th St., Los Angeles, Calif.

510 So. Lansing Ave., Tulsa, Okla.

PEOPLE

Calvin T. Harmon was elected controller of the Philadelphia Co., the Duquesne Light Co., and the Equitable Gas Co. by the boards of directors of those companies, it was announced on Jan. 20.

C. T. Harmon

Mr. Harmon entered the employ of these companies April 11, 1927, in the capacity of statistician. On Nov. 1, 1938, he became chief accountant of the statistical division and in September the following year he advanced to chief of the statistical division. On Dec. 19, 1941, he was made an assistant controller. Mr. Harmon attended La Salle Extension University after completing his high school studies. He is married and lives in Rochester, Pa.

• •

On the last day of 1942, **James A. Cunningham,** vice president in charge of finance, Peoples Light & Coke Co., Chicago, left the United States on a special mission to Central and South America to investigate certain matters relating to the country's rubber situation for his new boss, **Jesse Jones,** secretary of commerce.

Mr. Cunningham obtained a leave of absence from the company, and reported for duty in Washington Dec. 1.

• •

Navy cost inspector is the new title carried by **W. R. C. Galloway,** secretary and assistant treasurer, Peoples Light & Coke Co., Chicago, who left the company Nov. 11 to become a lieutenant senior grade in the U. S. Navy.

Mr. Galloway is stationed at Jacksonville, Fla., supervising navy contracts with the Merrill Stevens Drydock & Repair Co.

• •

Reford Bond, chairman of the Oklahoma Corporation Commission, has been appointed by **Governor R. M. Kerr** of Oklahoma as his assistant representative on the Interstate Oil Compact Commission to succeed **Charles C. Peppers,** Oklahoma City oil man.

Governor Kerr also announced appointment of **W. J. Holloway,** former governor of Oklahoma, as attorney for the Oklahoma division of the compact commission.

• •

Jeanne Miller is a new employee in the home service department of the Wyandotte County Gas Co. in Kansas City, Kan. Miss Miller went to work for that company on Jan. 1 and is assistant to **Betty Boyle,** home service director.

• •

E. D. Cumming, vice president in charge of refining, Shell Oil Co., Inc., joined the Office of Petroleum Coordinator for War on Dec. 7 to become director of refining, according to an announcement by Deputy Coordinator **Ralph K. Davies.** Mr. Cumming, a native of Alabama, was graduated from Alabama Polytechnic Institute at Auburn, and was first employed by the Shell Co. in its Pacific Coast refining operations. Prior to being transferred to New York he was for a time manager of Shell's big Wood River Ill., refinery. In his new capacity he will work under the guidance of Assistant Deputy Coordinator **Bruce K. Brown.**

• •

Dr. Thomas M. Fitzgerald of the Brooklyn Union Gas Co.'s medical staff has been commissioned in the navy as a lieutenant commander. **Dr. Raymond K. Pendleton,** also of the company's staff, holds the same rank in the navy, having joined several weeks ago. Dr. Fitzgerald has been associated with the Brooklyn Union Co. since 1925.

• •

Frank Fern of the advertising department of the Kansas City Gas Co., Kansas City, Mo., has been awarded a prize in the annual photographic contest sponsored by *Popular Photography* magazine. Mr. Fern's picture, "Lethargy in Liondom," depicted a lion in the local zoo enjoying an afternoon siesta.

• •

Franz Wethly, whose career as a designer and builder of by-product coke ovens has taken him around the world, has joined the Wilputte Coke Oven Corp., New York, it was announced recently by **L. M. Wilputte,** president. Mr. Wethly, until recently vice president of the Otto Construction Co., came to this country in 1939 from The Hague, Netherlands, where he directed the Dutch operations of the Otto interests. Wilputte Coke Oven Corp. is a subsidiary of Semet-Solvay Co., which is a subsidiary of Allied Chemical & Dye Corp.

• •

Commissioner Basil Manly of the Federal Power Commission has been re-elected vice chairman of the group for the coming year, a position he has held since December, 1941. Mr. Manly has been a member of FPC since 1933, and was previously vice chairman from 1933 to 1936. In 1938 **President Roosevelt** appointed him vice chairman of the National Defense Power Committee. Prior to joining the FPC he was Washington representative of the Power Authority of the State of New York.

• •

Charles B. Seidenglanz, manufacturers' representative handling the lines of Reynolds Gas Regulator Co. and Cleveland Heater Co., has recently received a commission of major in the cavalry. He is associated with the officers division 8th service command located in Dallas, Texas. Major Seidenglanz entered the service in June, 1940, as a second lieutenant. At the time of his joining the service, Major Seidenglanz was a director of the Southern Gas Association.

• •

During the absence of **Major Guy W. Wadsworth, Jr.,** of the Southern Counties Gas Co., Los Angeles, all matters dealing with labor relations, personnel, claims and insurance will be under the supervision of **Ludlow Shonnard, Jr.,** according to an announcement by **A. F. Bridge,** vice president and general manager.

The work of the personnel and claims de-

partment will be divided into two sections: (1) The industrial relations and personnel section, and (2) the employee welfare, claims and insurance section. The former will be supervised directly by Mr. Shonnard, while **H. B. Everett** will handle the latter. **Mrs. M. F. Allen,** as special clerk, will continue to handle personnel procurement, and **Miss A. L. Havrilla** will be section supervisor of the employee, claims and insurance section.

Elton Johnson, formerly in the company's eastern district, has been transferred to the personnel department to handle field investigations and claims.

• •

Appointment of **Frank A. Watts** of Houston, Texas, as director of the Materials Division was announced recently by Deputy Petroleum Administrator Ralph K. Davies. Mr. Watts succeeds **Greer Orton,** who resigned to return to the Texas Co. after having completed the six months period he agreed to serve as materials director when he was drafted by the Petroleum Administration for War.

On leave of absence from the Humble Oil & Refining Co., with headquarters in Houston, Mr. Watts has had 24 years' experience as an oil engineer and materials specialist. He is a native of Los Angeles.

• •

Alton B. Parker, better known to the trade as "Red" Parker, and with the AGAEM since last February, enlisted in the army on Dec. 1. He was sworn in at Fort Sam Houston, San Antonio, Texas, and then sent to Camp Joseph T. Robinson, Arkansas, where he is now finishing his basic training. His home is in Houston, Texas.

Alton B. Parker

Mr. Parker was national sales counsellor, domestic range division, for the Association of Gas Appliance and Equipment Manufacturers and traveled 32 states in which he visited most of the utilities in connection with sales promotional work, talking to sales groups and personnel meetings of gas companies and some dealers.

• •

Julia Hunter of the Galveston division of the Lone Star Gas Co. has been transferred to the Dallas, Texas, office of the company to take the position of assistant home economics director, formerly held by **Gertrude Payne Keim,** resigned. The announcement was made by **Will C. Grant,** advertising director, under whose supervision the home economics work is conducted. Mrs. Keim will devote her time to home duties after seven years with the company.

Miss Hunter has been home economist in the Galveston division of Texas Cities Gas Co. since June, 1941. She was sent there to represent the department following training in the Dallas office under **Albertine Berry.** She previously served as home management supervisor in the Wichita Falls area for Farm Security Administration and also taught home economics in the Texas public schools.

In Dallas Miss Hunter will develop copy for *Modern Home Making,* published weekly, which will be edited by Miss Hunter and **Lois Upshaw.** She also will teach nutrition classes and conduct nutrition lectures and cooking demonstrations, and will assist with home calls when necessary. She took over her new duties Dec. 15.

• •

Roger W. Allen, who for the past six years has been district sales engineer for Foxboro Co., Atlanta, Ga., has been appointed southeastern district manager for Wheelco Instrument Co., Chicago, with headquarters at 305 Techwood Drive, Atlanta.

Mr. Allen graduated from Georgia Technological Institute with a degree in electrical engineering. He also attended the Massachusetts Institute of Technology and was at one time employed by the Johns-Manville Sales Corp.

• •

Willard G. Wiegel, personnel director, Lone Star Gas Co., Dallas, Texas, has announced the addition of five new members to the company's personnel department. They are: **A. W. Breeland,** safety supervisor; **W. A. Allred,** assistant safety supervisor; **Mrs. J. N. Crist, Dan M. Cole,** formerly employed in the Dallas Gas Co. new business department, and **Mrs. Mildred Forbes,** secretary, formerly of the legal department.

• •

Houston Natural Gas Corp., Houston, Texas, has a new Sweeny-West Columbia district manager in the person of **Tom H. Backus.** Mr. Backus assumed his new duties on Dec. 1 and succeeds **W. Paul Holladay,** who is now employed by J. S. Abercrombie Co., Houston, Texas.

Mr. Backus, a graduate of the Texas College of Arts and Industries, Kingsville, was first employed by the Houston Natural Gas Corp. early in 1941, at which time he worked as a service man in Kingsville and Texas City.

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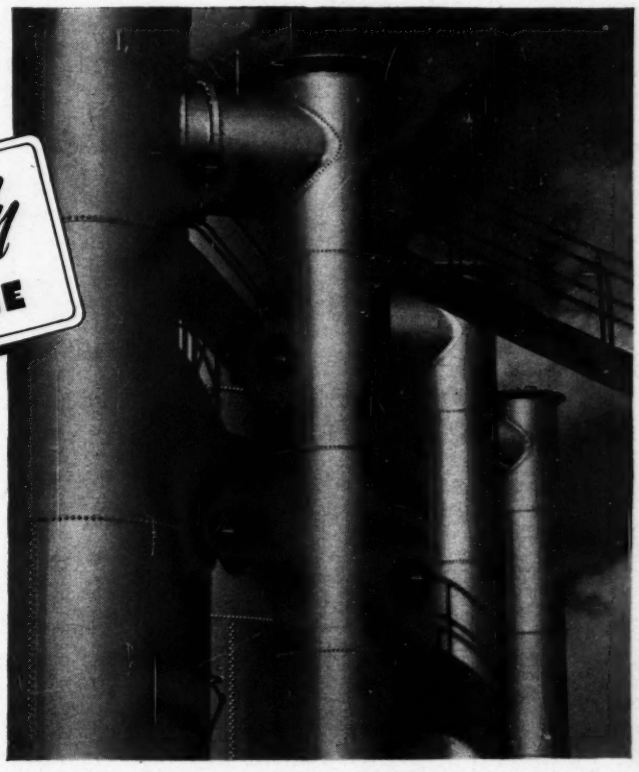
James F. Pollard, president, Seattle Gas Co., has announced the election of **N. Henry**

Connelly IRON SPONGE



ON GUARD

Prize winning photograph by Mel Jones, of Southern California Gas Co., South Gate, California.

IN today's gigantic production drive, the gas industry is playing an increasingly important part, and many companies are depending upon Connelly Iron Sponge to guard against inefficiency and waste in its purification processes.

Connelly Iron Sponge has for the past 65 years, proven its worth in the purifying systems of leading gas companies all over the country. Its cost per 1000 feet of gas is exceptionally low and its unusually long life and revivifying properties insure low operating costs.

Consult Connelly

Connelly engineers will be glad to make a thorough analysis of your purification problems and submit unbiased recommendations without obligation. Write us, today.

Connelly IRON SPONGE & GOVERNOR COMPANY
CHICAGO, ILL. • ELIZABETH, N. J.

Gellert, director and consulting engineer of the Seattle Gas Co., as president of the American States Utilities Corp.

Mr. Gellert will retain his position as a member of the Seattle Gas Co.'s board and executive committee.

• •

Gas companies in the six New England states participating in the gas industry's national advertising program have selected **J. J. Quinn,** general sales manager, Boston Consolidated Gas Co., Boston, Mass., to rpresent them on the committee on national advertising. The New England companies have been without a representative on the committee since the death of **Frank D. Cadwallader** on Nov. 29, 1942.

H. Carl Wolf, chairman of the committee on national advertising, has announced the appointment of **W. M. Jacobs,** general superintendent of sales, Southern California Gas Co., Los Angeles, as chairman of the subcommittee on approval of domestic gas copy. Chairman Wolf also has appointed Mr. Quinn to the same committee.

• •

Appointments of **David G. Hawthorn** as section chief of the Production Division and **John H. Thacher, Jr.,** as technical consultant in the Natural Gas and Natural Gasoline Division were announced recently by Deputy Petroleum Administrator Ralph K. Davies.

Mr. Hawthorn is chief of the newly formed Section of Materials and Equipment, which will handle the equipment requirements and allocation for the production branch of the oil industry as affected by the control materials plan.

A resident of Tulsa, Okla., Mr. Hawthorn is on leave of absence from the production department of the Amerada Petroleum Corp. Before joining PAW, Mr. Thacher was attached to the executive office of the chairman of WPB, where he had served as organizational consultant since June, 1942.

As technical consultant to the chief of the Natural Gas and Natural Gasoline Division, Mr. Thacher will chiefly be responsible for technical work incident to providing and maintaining supplies of natural gas for industrial and other essential purposes.

Obituaries

Frederick M. Becket

Frederick M. Becket, who was associated with Union Carbide & Carbon Corp. since 1906 as a consultant, died Dec. 1 at the age of 67. He was formerly president of Union Carbide & Carbon Research Laboratories, Inc., and was at one time vice president of Union Carbide Co., Electro Metallurgical Co. and Haynes Stellite Co., all subsidiaries of the Union Carbide & Carbon Corp.

■ ■

W. B. Evans

Walter Bishop Evans, assistant secretary and treasurer for the Hiawatha Oil & Gas Co., the Republic Pipe Line Co., and the Penn-Ohio Gas Co., died suddenly Jan. 12 in Pittsburgh, Pa.

Edward Stevens

Edward Stevens, for 20 years closely connected with The Lattimer-Stevens Co., Columbus, Ohio, passed away Jan. 10 after only a few days' illness with a heart attack. He was 41 years of age.

Edward Stevens

Mr. Stevens, who was secretary of the company founded by his father, F. E. Stevens, was a member of the American Gas Association, Association of Gas Appliance and Equipment Manufacturers, Gild of Ancient Supplers, the National Purchasing Agents Association, and various other civic and business organizations. He attended Ohio State University.

■ ■

Sacramento Moves to Buy P. G. & E. Electric Properties

Directors of the Sacramento (Calif.) Municipal Utility District moved Jan. 21 to acquire the electric distribution system of the Pacific Gas & Electric Co. for that area.

The district filed a condemnation suit in superior court based on the State Railroad Commission's evaluation of $11,632,000 for the system, but Stephen W. Downey, legal counsel for the district, said the state supreme court will be asked to review the commission's findings.

Sacramento county voters in 1934 approved a bond issue of $12,000,000 to finance the purchase or construction of an electric distribution system. Litigation has gone on since.

The Railroad Commission's decision fixing the valuation of the P. G. & E. property at $11,632,000 was handed down last November after nearly 18 months of hearings and investigation. The company had asked $18,302,891 and the district countered with $9,963,000.

■ ■

New Rate Schedule Settles Arkansas Gas Rate Contest

The Federal Power Commission announced Jan. 12 its order terminating proceedings instituted pursuant to the complaint of the Department of Public Utilities of the State of Arkansas alleging that the rates charged by Memphis Natural Gas Co. for gas sold to the Arkansas Power & Light Co. for resale were unjust, unreasonable and unduly discriminatory. The Arkansas Department of Public Utilities on Dec. 19, 1942, filed a motion to dismiss the proceedings, asserting that the matters complained of had been satisfactorily adjusted by a new rate schedule offered by the Memphis company which was made effective Nov. 1, 1942, by order of the Federal Power Commission.

■ ■

Appliance Sales Increase Despite War Restrictions

Wartime restrictions on gas appliances and the government's 33⅓% down payment requirement did not prevent the Dallas gas sales department from recording a 22½% increase in dollar volume on sales during the first half of December as compared to the same period in 1941 before the restrictions became effective. In transacting these sales the department maintained only one-third of the sales staff it had one year ago.

C. K. Patton, new business manager, reported that 20 ranges were sold during the first half of December, 1941, while 47 were sold during the same period of 1942.

Snapped

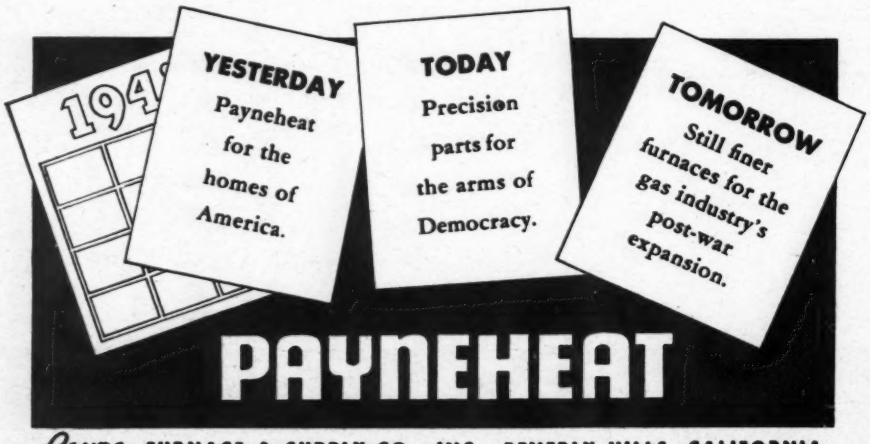
FROM HEATERS TO FIGHTERS

★ ★ ★ ★ ★

The Spencer Thermostatic Disc—long the operating device in Klixon Gas Valves and Room Thermostats—has always been known for its snap-action. Once war was declared, it snapped from peace-time jobs to war-time jobs—from heater controls to fighter, bomber and tank controls.

That's where Klixon Controls are going today, tomorrow and every day until peace is finally declared.

SPENCER THERMOSTAT CO. KLIXON Attleboro, Massachusetts



Payne FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIFORNIA

Great Lakes Utilities Sells Watertown Gas Company

PURCHASE of the Watertown Gas Co. plant, distribution system and assets by the city of Watertown, S. D., from the Great Lakes Utilities Co. was completed Jan. 13.

Watertown, which also owns a municipal light plant, a city heating plant and a municipal water system, paid $30,000 cash for the plant and distribution system and assumed obligations totaling $12,734.12. Additional assets of the company totaling $8560.52 were taken over by the city, however, to make the net cost $34,163.

The Great Lakes Utilities Co. posted a bond to indemnify the city against any unlisted obligations. Obligations and assets of the company were figured on a Jan. 1 basis, with the city taking credit for all collections since that date.

Sale of the Watertown Gas Co. was ordered by the Securities and Exchange Commission under the "Death Sentence" act of Congress which ordered the liquidation of operating companies by holding companies. The sale was approved by the United States District Court of eastern Pennsylvania.

All employees of the gas company, with the exception of the manager, R. W. Kiefer, who is being transferred to another post, are being retained by the city. C. R. Hennick, former superintendent of the city light department, has been named manager of the gas plant.

Earnings of the city heating department, which will have jurisdiction over the gas plant, were used to purchase the plant.

The contract was signed by N. H. Gellert, president, and Charles M. Sturkey of the Great Lakes Utilities Co., and Mayor George Beier and City Auditor F. J. Hubbard of the city of Watertown.

Value of the gas company assets were given a book value of $350,000 in figures furnished to the city by the gas company officials. They include 14.95 miles of mains. The company has more than 900 customers.

■ ■

Fluor Corp. Opens Office In New York City

In a move that provides direct company representation on the Atlantic Seaboard, the Fluor Corp., Ltd., Los Angeles, announces the opening of a direct company branch office in New York City at 1919 R. C. A. Bldg., 30 Rockefeller Plaza, with J. I. Lawrence, formerly of the company's Kansas City office, in charge.

The new office is staffed and equipped to handle all matters pertaining to the sale of Fluor atmospheric aerator and mechanical draft cooling towers, gas cleaners and mufflers and direct company-customer contact on matters pertaining to the design, engineering and construction of synthetic rubber, toluene aviation gasoline, alkylation, isomerization, recycling, natural gasoline and gas transmission plants and refineries in this area.

■ ■

Employees Given Book of Memoirs by Company Head

Albert S. Johnson, president, Southern Union Gas Co., Dallas, Texas, and now a lieutenant-colonel in the 16th Armored Division, has published an attractive little booklet entitled "For All of Us," containing a selection of letters written by him at various times to his employees during the past four years. The letters were originally published in the company house organ, *Southern Union News*.

The little booklet, printed in brown type, gives an interesting insight into the functions and employee-managment relationships of the company and was presented by Lieut.-Col. Johnson to the employees "as a Christmas remembrance."

■ ■

Company Donates Services In Fur Collection Drive

Oklahoma Natural Gas Co. has added another item to its list of war services and is now carrying on a fur collection campaign. The donated furs will be used to line vests to protect our seamen against the cold, icy blasts of zero weather. The company has advertised for customers to turn over their old fur coats, muffs, collars and cuffs to Oklahoma Natural's offices and they in turn will send them to the state depository of the Fur Vest Project of the War Emergency Board.

P. G. & E. Restores Marysville Generating Plant to Use

Pacific Gas & Electric Co. has restored the Marysville gas generating plant to operation in an effort to augment the supply of natural gas from the wells of the Buttes Oilfields, Inc., in the Sutter Buttes. The supply from the Sutter Buttes wells has been inadequate to meet the winter peak demands of consumers connected with the Sacramento Valley system.

The Marysville gas generating plant had been previously enlarged to supply Chico and Oroville, in addition to Marysville and Yuba City before the advent of the Buttes natural gas wells. The Marysville plant is second oldest and largest in that California valley.

Where unvarying low pressure is required

As a district regulator — at distributing or measuring stations — in industrial plants, institutions and housing projects — wherever low pressure gas is consumed in considerable volume, the C-F Low Pressure Regulator gives perfect control. Any inlet pressure up to 100 pounds can be reduced to a constant delivery pressure from 2 to 16 ounces. Fully balanced valve with soft-seat construction for positive shut-off. Inside valve may be removed for inspection without taking regulator from line. Furnished with or without automatic cut-off, a safety feature which closes regulator when line pressure fails, and must be reopened manually. For domestic service or other installations requiring less volume, the C-F House Regulator is unequalled in performance or durability, reducing line pressures as high as 500 pounds to delivery pressures in ounces. There's a C-F regulator for every requirement in the control of either high or low pressures. Specific recommendations will be made on request.

THE CHAPLIN-FULTON MFG. CO.

38 PENN AVE. PITTSBURGH, PA.

Part of the group entertained by the Selectees Club of the Michigan Consolidated Gas Co. at a party given for the families of gas company employees who are now in service.

Girls' Club Aids Employees in Service

OF ALL the employee social activities carried on through cooperation of the Michigan Consolidated Gas Co. probably the one that has the most popular appeal is the doings of the Selectee Club, organized and operated by the girl employees, although practically everybody takes part.

This Selectee Club was started in July, 1940, by a few girls getting together to do something for the 38 gas company employees then in service. The club has grown as an increasing number of gas company employees joined the armed forces and now every month the 184 men and one woman who are scattered around the world receive a package containing much appreciated things that are hard to get where they may be located. These girls are maintaining a line of communication with old friends and associates in the fighting forces.

About the first of November the girls who make up the Selectee Club decided it would be nice to entertain the mothers, wives, sisters and sweethearts of our men who had left the company to join the armed forces. The time was set for the afternoon of Dec. 5, and when the members of this organization put their hearts into a project they are sure to come through with something fine and big.

One hundred and thirty women responded to invitations and met for tea in the specially decorated gas company auditorium, which turned out to be one of the outstanding social events in gas company history.

Upon arrival each guest was given a corsage to which was attached a card showing the guest's name, for ready identification by others. The party opened by singing the national anthem, with two little girls, daughters of gas company employees, posting the colors on the stage. Miss Ethel Bukart, president of the Selectee Club, gave an address of welcome to the ladies; Henry Fink, assistant general manager, spoke briefly on behalf of the company.

■ ■

Gas Service Companies' Sales $1,054,033 in 1942

APPLIANCE and installation sales of the new business departments of The Gas Service Co., Kansas City Gas Co. and The Wyandotte County Gas Co. for the year 1942 amounted to $1,054,033. Normal business continued from January through March and part of April, the first reduction in business due to wartime conditions being in May. New business sales by months during the balance of the year were from 15% to 20% of normal due to wartime regulations.

Company domestic customers at the close of 1942 totaled 281,918, an increase of 3.6% in the gain of customers for the year.

Total domestic gas sales for the 12 months ending Dec., 1942, were 24,548,452 M c. f., which was an increase of 9.3% over the year 1941. On the basis of M c. f. sales per customer, the total at the end of last year was 87.1 M c. f., which was an increase of 2.1 M c. f. over the year ending 1941.

■ ■

FPC Operating Methods Discussed in New Book

Robert D. Baum of National Resources Planning Board, Washington, D. C., is the author of a book, "The Federal Power Commission and State Utility Regulation," recently published by the American Council on Public Affairs.

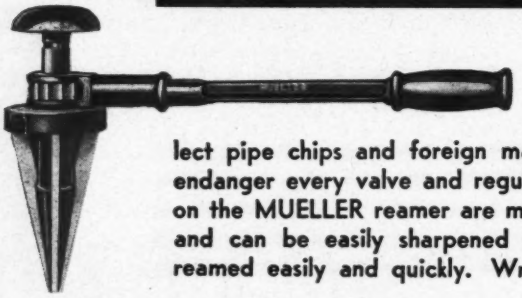
The 300-page edition contains chapters on Federalism and the Federal Power Commission, Jurisdictional Disputes, Water Power Control, Control of Accounting, Control of Rates, Control of Intercorporate Relations, and Effectiveness of Collaboration.

SEMET-SOLVAY
ENGINEERING CORPORATION

Blue Gas Plants
Water Gas Machines
Washer Coolers
Naphthalene Scrubbers
Gas Purifiers
Condensers
Waste Heat Boilers
Producer Gas Plants

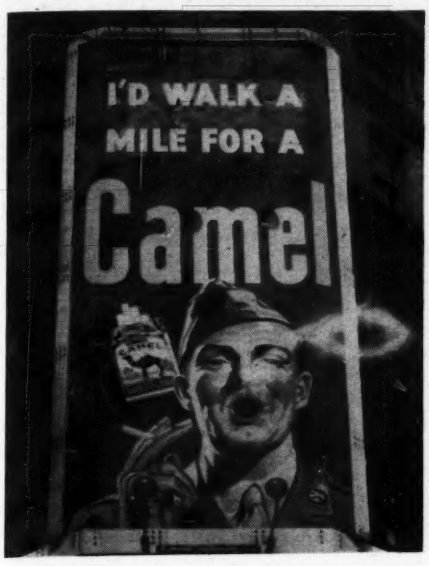
40 RECTOR STREET, NEW YORK, N. Y.

PIPE CHIPS DO CAUSE DAMAGE!



Unreamed pipe has burrs. These obstruct free flow, cut pipe capacity, and collect pipe chips and foreign matter which, when dislodged, endanger every valve and regulator on the line. The blades on the MUELLER reamer are made of high grade tool steel, and can be easily sharpened if necessary. Pipe ends are reamed easily and quickly. Write for descriptive literature.

MUELLER CO. DEPT. G-6 DECATUR, ILL. • LOS ANGELES, CALIF.



A gas-fired boiler is the "man behind the scenes" in the operation of this novel animated Camel Cigarette advertisement.

Gas-Fired Boiler Blows 'Smoke Rings' for Camel Sign

Intrigued by a large display sign three floors up at the busy corner of State and Randolph streets in the Loop, Chicago residents and visitors alike turn their eyes upward these days. The sign shows a Camel-smoking soldier boy blowing realistic "smoke" rings. Spectators who stop long enough to count the puffs will observe that 15 rings per minute emanate from the soldier's mouth.

The sign is operated by a 12-h. p. gas-fired boiler served by Chicago's Peoples Gas Light & Coke Co. The boiler is located on the third floor of the corner building, and the sign begins to operate automatically at 7 a. m., shutting itself off at 1 a. m. The sign was erected by General Outdoor Advertising Co. and was placed in operation in 1942. It was one of the feature attractions at the annual AGA conference held in Chicago last year.

■ ■

New Addition Scheduled For Wyoming Gas Plant

The Continental Oil Co., Lusk, Wyo., will spend upward of a half million dollars on an extensive addition to its gas plant at Lance Creek, Wyo., according to an announcement by company officials. The company has received notification of satisfactory priority permits from the WPB.

The contract for the work has been awarded to Stearns-Rogers Manufacturing Co. of Denver, Colo. Construction work on the project is expected to start early in the spring with completion depending on availability of workmen.

■ ■

Houston Natural Gas Has New Silsbee Headquarters

Houston Natural Gas Corp., Houston, Texas, has established new district office headquarters in the Hardin Building in downtown Silsbee. Prior to the new arrangement the company's Silsbee office was maintained in the home of District Manager Clifford McKay since the town was piped for natural gas in 1937. During that period the Silsbee State Bank served as a collecting office for gas accounts.

Mr. McKay is at present awaiting a call from the naval reserve and expects to enter the service as a chief petty officer.

■ ■

Pittsburgh Gas Ordered To Refund Excess Charges

Peoples Natural Gas Co. of Pittsburgh, Pa., recently was ordered by the Public Utility Commission in Harrisburg, Pa., to reduce its rates by nearly 15% and refund $3,000,000 to Western Pennsylvania consumers, after the PUC determined that increased rates the company had put into effect July 1, 1942, were "unreasonable and excessive."

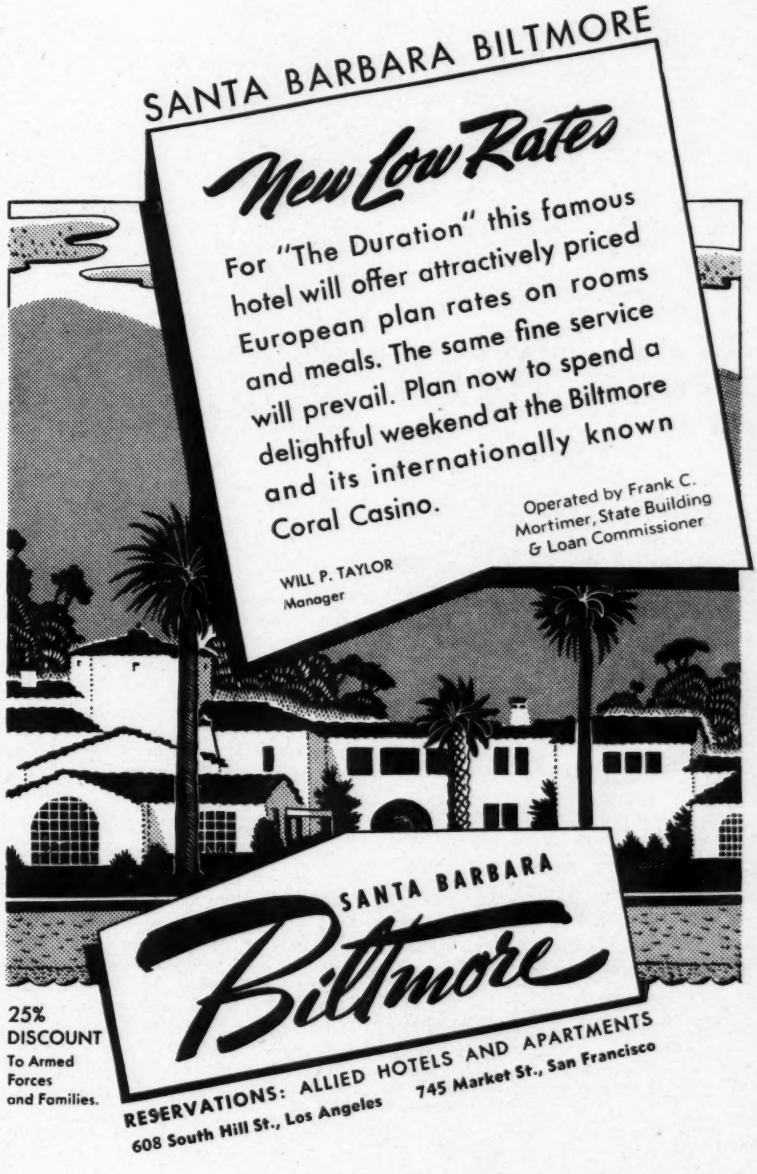
Peoples Natural Gas Co. was also required to submit by Dec. 23 a new rate schedule.

Refunds of $3,000,000 to be paid to 161,000 consumers before Feb. 8, 1943, cover excessive rates in 1939, 1940 and 1941.

WPB Issues Booklet on 1942 Production Progress

"The American people are entitled to a report on the progress of production in our first year of war," wrote Donald M. Nelson, chairman, War Production Board, in the preface of a booklet called "War Production in 1942" which has just been issued by WPB.

The booklet tells of the major progress and problems faced in America's first year of war. A chart depicting the rise in munitions production shows the large increase in the manufacture of munitions, ordnance, merchant ships, aircraft and naval ships during 1942 over 1941 to be: Munitions, 4 times as large; ordnance, merchant ships, aircraft and naval ordnance, 6¼ times as large; merchant ships, 5 times as large; aircraft, 3½ times as large; and naval vessels, 2¾ times as large.


SANTA BARBARA BILTMORE
New Low Rates
For "The Duration" this famous hotel will offer attractively priced European plan rates on rooms and meals. The same fine service will prevail. Plan now to spend a delightful weekend at the Biltmore and its internationally known Coral Casino.
Operated by Frank C. Mortimer, State Building & Loan Commissioner
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Biltmore
25% DISCOUNT
To Armed Forces and Families.
RESERVATIONS: ALLIED HOTELS AND APARTMENTS
608 South Hill St., Los Angeles
745 Market St., San Francisco

Government Flag Awards

B. B. Williams, president of Cooper-Bessemer, delivers an address of welcome at the "M" Award ceremonies.

Cooper-Bessemer Corp.

In recognition of the outstanding work done in the production of diesel engines and major engine parts for Liberty ships, the Cooper-Bessemer Corp. was recently awarded the Maritime "M," highest award of the United States Maritime Commission.

Workers in both the Grove City, Pa., and Mount Vernon, Ohio, plants of the corporation were enabled to participate in the impressive ceremony when the highlights of the program were carried by radio to the headquarters.

Rear Admiral Howard L. Vickery vice chairman of the U. S. Maritime Commission and chairman of the board of awards, presented the coveted flag to Gordon Lefebvre, vice president of Cooper-Bessemer, who accepted it on behalf of his organization. Each employee received a maritime merit badge.

■ ■

Servel, Inc.

HIGH praise for the management and workers of Servel, Inc., in the manufacture of war equipment was voiced by prominent army and navy officers participating in the Army-Navy "E" Production Award which was officially presented to the Servel organization at Evansville, Ind., Jan. 15.

Lieut. Louis A. Schauer (center) is shown chatting with Bernard T. Franck (left), vice president, Milwaukee Gas Light Co., and G. S. Jones, Jr., vice president, Servel, Inc.

The ceremonies were held in the company's huge new war production building and witnessed by a capacity audience of more than 10,000 persons, including employees, speakers and special guests. Dedication of the new building, which adds 235,000 sq. ft. of floor space to the Servel plant, took place at the same time. Dedication of this new war plant was in charge of Major F. A. Dixon, U. S. army air forces.

Presentation of the Army-Navy "E" pennant for excellence in the production of war equipment was made by Col. Fred A. McMahon, chief of the Cincinnati Ordnance District, Cincinnati, Ohio.

In accepting the award, Louis Ruthenburg, president of Servel, Inc., said he spoke for the men and women who work at the machines and benches, supervision, management and directors who were impressed anew with a deep sense of responsibility in the war program.

Lieut. Comdr. F. G. Healy of the United States Navy, awarded the lapel pins to Servel workers. Acceptance of these pins on behalf of the workers was made by August Horstman, president of the Servel Employees Association.

A surprise guest speaker on the program was Lieut. Louis A. Schauer, United States army air force and formerly a Servel salesman for the Milwaukee Gas Light Co.

Among the representatives of the gas industry at the ceremonies were: B. T. Franck, vice president, Milwaukee Gas Light Co.; Miss Jessie McQueen, home service counsellor, American Gas Association; and Hugh H. Cuthrell, vice president, Brooklyn Union Gas Co.

■ ■

FPC Approves Excess Costs Plan of Cincinnati G. & E.

The Federal Power Commission announced Jan. 19 its order approving the plan submitted by the Cincinnati Gas & Electric Co. for the disposition of $29,937,540.63 established as excess costs in the course of reclassifying the company's accounts and determining the original cost of its properties.

The order states that the company's proposed disposition is in accord with sound principles of accounting and the commission's uniform systems of accounts under the Federal Power Act and the Natural Gas Act. The amount to be disposed of is about 33% of the total original plant costs, which are fixed at $91,130,049.63 in the company's revised studies.

The Cincinnati company proposes to dispose of the $29,937,540.63 established in the various adjustment and other accounts as follows:

To reserve for depreciation	$ 2,273,611.04
To earned surplus prior to Jan. 1, 1938	118,036.23
To capital surplus prior to Jan. 1, 1938	7,134,517.42
To special capital surplus	20,424,207.08
To contributions in aid of construction—Gas	12,831.14
TOTAL	$29,937,540.63

■ ■

Brooklyn Union Conducts Telephone Contest

"How the proper use of the telephone builds good customer relations and helps the war program" is the subject of a contest among Brooklyn Union Gas Co. employees which closed Jan. 22. Twenty prizes, one of which is a $100 war bond, were offered the winners. Secondary prizes, also war bonds and war savings stamps, range downward from $50 to $3.

The theme was intended to tie in with the national movement to emphasize the importance of the telephone during times of emergency and the terms of the contest provided that entrants should list the things one should do, or not do, together with an essay of 200 words or less.

Judges of the contest are Vice President Hugh H. Cuthrell, Assistant Vice President George F. B. Owens, General Auditor Chas. J. Fue, Telephone Superintendent Edward Burger, and "Plans Captain" Fred Roberts.

■ ■

Present War Bonds May Buy Future Gas Ranges

While most manufacturers of CP gas ranges are now fully converted to war production, they have no intention of letting their trademark die because for the time being no ranges can be built, according to a recent bulletin from the Pacific Coast Gas Association. Constant research is being carried on with the objective of making the CP range more efficient, more flexible, more economical and more attractive. In the meantime plans are being formulated for sales activity now, perhaps by selling war bonds earmarked for the purchase of a new range when the war is won, using the slogan, "Buy war bonds now to preserve the American way of life and save to enjoy tomorrow's way of living—it will be gas."

LONGER WEAR

Want longer service and greater value from respirators? Then follow the few, simple suggestions Bullard offers in the new booklet, "How to Get Longer Service and Greater Value from Respirators." Over a quarter century of industrial safety experience backs these ideas. They're free! Send for your copy.

1B-15

E. D. BULLARD COMPANY
275 Eighth Street
San Francisco, California.
Everything BULLARD in Safety
Please send me illustrated booklet, "How to get Longer Service and Greater Value from Respirators."
Name _____
Company _____
Address _____
City _____ *State* _____ G

NATIONWIDE SALES AND STOCKS

This 7-col. by 20-in. newspaper advertisement graphically explains to consumers the reorganization of the Lone Star Gas System recently completed under SEC ruling.

Reorganization of Lone Star Approved by SEC

The reorganization of Lone Star Gas System, which has been approved by the Securities and Exchange Commission, took effect in December, the chief change in Dallas being that the Dallas Gas Co. now is the Lone Star Gas Co., Dallas division of distribution. The five operating companies of the system have been combined into two, Lone Star Gas Co., which will transmit and distribute natural gas, and Lone Star Producing Co., which will produce gas in the field.

Under the reorganization plan, the company's properties in El Paso and Galveston are to be sold, leaving the system a closely knit, integrated company operating in 295 Texas and southern Oklahoma cities and towns. D. A. Hulcy, who has been president of Lone Star Gas Co., is president of the new company. He said the change will effect a number of economies and give a more compact operating organization, but there would be no change in personnel.

■ ■

Wyandotte Gas Co. Adopts Bi-monthly Meter Reading

The Wyandotte County Gas Co. in Kansas City, Kan., because of the shortage of meter readers, has successfully worked out a plan of every other month mailing to customers meter cards to be filled out and mailed back by the customer. On alternating months the company meter readers will read the customer meters, the city having been divided into various districts.

According to I. W. McKee, secretary of the Wyandotte company, the first month of the new plan has proven very successful Practically all cards have been returned and a vast majority of the meters read by customers have been remarkably correct.

In order to inform customers of the new plan at the time of its inauguration, letters explaining the necessity for changing the procedure were mailed to all customers. The company is also carrying advertisements in the Kansas City *Kansan* from time to time explaining the new plan and at the bottom of the ad printing a reproduction of the card with the various meter dials as they appear on the card.

■ ■

FPC Will Investigate Gas Rates Paid by Ohio Fuel

The Federal Power Commission announced Jan. 16 its order instituting an investigation into the reasonableness of the rates being charged the Ohio Fuel Gas Co., Columbus, Ohio, by the United Fuel Gas Co. of Ironton, Ohio. The investigation arises out of complaints heretofore filed by the Pennsylvania Public Utility Commission and the city of Columbus, claiming excessive rates have been charged.

New York Court Upholds "Death Sentence" Clause

In late January a New York City appellate court handed down a decision that the "death sentence" clause (section 11) in the Public Utility Holding Company Act is constitutional. This act, on the statute books for seven years, provides for the disintegration of holding companies, and this was the first time it had been court tested and upheld, although four other cases are still pending.

This specific decision was against the North American Co. of New York. The company is given 90 days to enter an appeal to the supreme court or abide by the original order.

The North American Co. controls Wisconsin Gas & Electric Co., Wisconsin Michigan Power Co., Union Electric Co. of Illinois, Iowa Union Electric Co., and the St. Louis County Gas Co.

3 Famous
PLACES TO DINE
IN
SAN FRANCISCO
El Prado
Famous for its roasts, carved at your table, London style. Extra measure drinks, too.
W. L. THACKER, MANAGER
HOTEL
PLAZA
OVERLOOKING UNION SQUARE
REDWOOD ROOM
One of the reasons why San Francisco is world famous for its fine foods and drinks.
RICHARD I. SCOLLIN, Manager
THE
CLIFT
GEARY AT TAYLOR
KIT CARSON'S
FAMOUS FOR ITS STEAKS
The meeting place for those who enjoy fine food. Man-sized drinks also are our specialty.
G. J. "Jerry" Portilla, Manager
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National Stock Yards
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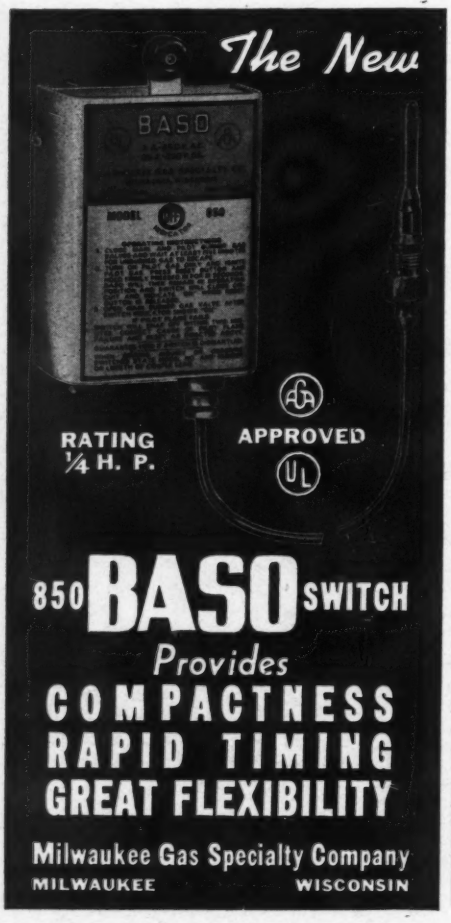

Ruthenburg Proposes Joint NAM-C. of C. Council

Louis Ruthenburg, president of the Indiana State Chamber of Commerce, and president of Servel, Inc., Evansville, Ind., has advocated formation of a joint council composed of members of the Chamber of Commerce of the United States and the National Association of Manufacturers from every state in the Union, to help bring about the "new order of cooperation between government, business, labor and agriculture" which he said must come if the American people are to meet the challenges and opportunities that confront them. He listed these "challenges and opportunities" as "winning the war, winning the peace, and assuming leadership in reorganization of the world to insure lasting peace."

Mr. Ruthenburg's proposal was made Jan. 26 in an address delivered before members of the Sales Executive Club in New York City.

Mr. Ruthenburg outlined the four principal objectives of such a council briefly as follows:

1. Close collaboration with national legislators by making available to them adequate facilities for economic and social research.
2. Development and direction of an organization to help maintain sound public relationships for American business.
3. Effective integration of all state chambers of commerce and state manufacturers' associations with the Chamber of Commerce of the United States and the National Association of Manufacturers.
4. Encourage state organizations to bring about the integration of local manufacturers' and employers' associations and local chambers of commerce. Through such bodies close collaboration between government and business and effective public relationships can be developed at community levels.

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Engineers Will Appraise El Paso, Texas, Plant

THE engineering firm of Headman, Ferguson & Corolla of Phoenix, Ariz., has been awarded the contract to conduct an appraisal survey of the gas plant properties of the Texas Cities Gas Co. in El Paso, Texas, which the city of El Paso proposes to purchase. The name of the present operating company has been changed to the Lone Star Gas Co., following the reorganization of the Lone Star system by the SEC (*GAS*, Dec., 1942, p. 47).

If the city officials approve the appraisal figure, the proposal to purchase will be submitted to the voters in an April election.

The reorganization of Lone Star was approved by the Securities and Exchange Commission. Under it, the properties in El Paso and Galveston are to be sold, leaving the system a closely knit, integrated company operating in 295 Texas and southern Oklahoma cities and towns.

Companies in addition to the Lone Star and Texas Cities Gas affected by the reorganization are the Dallas Gas Co., Community Natural Gas and Lone Star Gasoline Co.

The parent holding company was one of the first to register under the Public Utilities Holding Company Act of 1935 and is among the first to reorganize, the public relations department reported.

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United Gas Pipe Line Co. Builds New 12-in. Line

United Gas Pipe Line Co., Shreveport, La., has constructed and put into operation a new 12-in. line from Lake Long to St. Rose, La.

The new line loops the existing line from Lake Long to St. Rose where both lines connect with the Baton Rouge-New Orleans line. A double crossing of the Mississippi River was necessary on this project, as it had been on the former job.

Construction of the line was required when city gate customers requested that the maximum daily deliveries be increased from 111,000,000 cu. ft. daily to 183,000,000. This jump of 72,000,000 cu. ft. was due to the general development of the New Orleans area together with the rapid industrial expansion now taking place. United now has three lines leading out of the Lake Long and Lirette areas, two of which serve the New Orleans area and one the Gulf Coast as far east as Pensacola, Fla.

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Gas Industry Asked to Aid Victory Book Drive

Members of the gas industry are asked to join with the rest of the nation in the drive to make the 1943 Victory Book Campaign a success and thus provide our fighting men with many hours of entertainment in the form of good reading.

The Victory Book committee asks that the books contributed to the soldiers, sailors and airmen be in good condition, whether fiction or non-fiction, and offers as a slogan for the drive, "Any book you really want to keep is a good one to give." The committee is also in need of volunteers to serve on collection committees, to paper each community with book deposit containers, to circulate posters and to chauffeur books from collection centers to the libraries.

The Victory Book campaign among gas industry personnel has received the endorsement of J. W. West, Jr., secretary of the AGA commitete on war activities.

Further information on how to serve by donating books can be had by writing to the 1943 Victory Book Committee, Empire State Bldg., New York.

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Lone Star Seeks Franchise In Denison, Texas

The Lone Star Gas Co., Dallas, Texas, has submitted a formal application to the Denison city commission for a 20-year franchise with the request that the matter be submitted to the voters at an election. The application was accompanied by a check to cover costs of an election as required by the city charter. Byron Mitchell, manager of the company in Denison, said his firm was encouraged by the response citizens made in a postcard poll.

The original franchise, granted by voters here in 1912, expired last July and the city commission since has sought to purchase distribution facilities of the company. Under provisions of the original charter, the city has a right to negotiate with the company for the property. The gas company has contended the city forfeited its right to negotiate by seeking such procedure four months after the franchise elapsed.

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Southern Counties Holds Annual Sales Banquet

As has been the custom for the past 10 years, F. S. Wade, president, Southern California and Southern Counties Gas Co., acted as host Jan. 14 for the thirty-second annual sales dinner of the Southern Counties Gas Co. of California. Guest of honor was F. R. Bain, chairman of the board of Southern Counties, who organized the company in 1911 and continued on as president until 1928. There was an attendance of approximately 80 in spite of the fact that the company's sales force had been cut during the past year from 70 to nine men. The dinner guests included district managers, superintendents, commercial agents, chief clerks, and officials from the headquarters company. Clyde Potter, commercial manager, Southern Counties Gas Co., was master of ceremonies.